TECHNOLOGY DEPT.

A National Newspaper for Every Branch of the Industry

First Copy

PUBLIC LIBRARY
JUL 24 1930
DETROIT

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

Vol. 10. No. 1253 | Entered as second-class matter Aug. 27, 1925, Post Office, N. Y., N. Y., Under Act of March 3, 1879. | NEW YORK, THURSDAY, JULY 17, 1930 | 10 Cents. $12 Per Year

CAR SALES EXCEED 3-YEAR AVERAGE

Employment in Automotive Industry Remains Steady; Usual Seasonal Decline

Government Report for June Shows Little Change In Status of Operations in Motor Centers; Schedules Show Variation

By FRANCIS P. DAILY

WASHINGTON, July 16.—With automotive manufacturers taking a long forward step in cleaning up retail stocks during June, as well as a large number of plants being in the midst of mid-year inventory taking, there was little change in the industrial employment situation in the last month.

A number of factories generally worked on part-time schedules with curtailed forces engaged. Seasonal influences, in most instances, were responsible for the reduction in industrial activity, it was pointed out today by the employment service of the Department of Labor.

Automobile and accessory factories, foundries, sheet and tube plants and metal-working establishments in Michigan continued on part-time during most of last month.

In the Detroit industrial district the trend of manufacturing employment showed little change. Curtailed schedules in many of the major industries contributed a large volume of unemployment. However, several automobile and automobile accessory plants operated full time.

There was a surplus of automobile workers in Pontiac, while other industrial establishments worked on fairly satisfactory schedules.

All factories in Flint were in operation. However, several reported part-time schedules, being most noticeable in the automotive trades, and a surplus in this class of workers was apparent at the end of June.

The surplus of workers in Lansing usually employed in the automobile industry contributed mainly to the

(Continued on Page 4)

MARYLAND DEALER ASSOCIATION HOLDS ITS FIRST MEETING

Ocean City, Md., July 16.—The Maryland Automobile Trade Association's first annual convention is being held this week here with more than 300 dealers and distributors from Maryland, Pennsylvania, Delaware and District of Columbia attending the sessions. Reports are that it is the largest body of dealers ever gathered together in this state.

The list of speakers includes among others Paul G. Hoffman, vice-president of the Studebaker Corporation, who will dwell on "The Used Car Problem;" H. Wallace Peters, vice-president Packard Motor Car Company, on "The Sales of Tomorrow;" John J. Hall, director National Bureau of Casualty and Surety Underwriters, speaking on "The Save-a-Life Campaign," and H. Bertram Lewis, vice-president Commercial Credit Company, expressing a general outline on "Getting the Business."

Urging the automobile dealers of Maryland to organize against overproduction in the industry by determined opposition to all manufacturers who force the acceptance of

(Continued on Page 4)

Austin May Erect New Body Plant

June Output Placed At 1,388; July Schedule 3,000

BUTLER, Pa., July 16.—Directors of the American Austin Car Company, Inc., are considering tentative plans for the erection of a plant in Butler for the building of bodies for the Bantam Austin. It is expected that announcement will be made within sixty days.

The proposed plant would cost about $750,000 and would employ about 500 men, it is unofficially announced. Bodies for the Austin cars are now being built by the Hayes Body Company of Grand Rapids, Mich.

The Austin company has fifteen acres and half a dozen buildings, secured from the Standard Steel Car Company last year. The automobile company has ample room for the erection of a body plant adjacent to the present assembly and office buildings of the company.

The American Austin Automobile Company, Inc., built 1,388 bantam cars at the plant here in June, according to C. A. Best, general sales manager.

E. J. Leach, production manager, says that the schedule for July is expected to reach 3,000 cars and that plans are being made to produce 5,000 in August.

The daily production has reached an average of 125. Shipments of cars to individual distributors are kept at a minimum in order to reach as many dealers as possible with display cars, it is announced.

The plant is using about 600 employees and these will be increased as rapidly as additional assembly lines can be developed.

MONTGOMERY WARD & CO. TO SELL WINTERFRONTS

Chicago, July 16.—Pines Winterfront Company has closed a contract with Montgomery Ward & Co. to supply its needs in winterfront line. Sears, Roebuck & Co. advertised Pines Winterfronts in its fall-winter catalogue last year while Ward is advertising them for the first time in its fall-winter catalogue.

Ward will sell horizontal type winterfront for small cars for $9.95 and for large cars for $14.95 and it is expected that Sears fall-winter catalogue, coming out shortly, will show similar prices.

SATURATION POINT REMOTE AS U. S. REGISTRATION TREND IN 1930 CONTINUES UPWARD

Five Months' Total Higher Than Corresponding Period in 1928 and 1927 and Topped Only in Abnormal 1929

NEW YORK, July 16.—Retail sales of new passenger cars in the United States in the first five months of the current year were substantially in excess of the average for the corresponding period in the three years immediately preceding 1930, indicating that the automobile market in this country is still in an up-trend.

The remoteness of the domestic saturation point in automobile demand is strikingly illustrated by the fact that retail sales in a year of depression remain above the level of the preceding three years, one year of which (1929) saw sales at an abnormally high level and considerably out of line with the normal upward curve that had persisted since the beginning of the industry.

Retail sales of new cars in the five months' period of this year amounted to 1,392,668, according to the actual registration figures, as compared with an average of 1,322,917 for the corresponding periods in 1929, 1928 and 1927. This was a gain this year over the average of 69,751, equivalent to 5.2 per cent.

The registrations in each of the first three months of this year were above the average for the corresponding month for the preceding three years, but in the fourth and fifth months retail sales fell off slightly from the average for April and May over the three-year period.

Registrations in January of this year amounted to 180,094, as compared with a three-year average of 176,802, an increase over the average of 1.8 per cent. It was in February that the largest increase over the average was set up. Sales in that month were 211,645, as compared with a three-year average of 193,574, a gain of 9.2 per cent. In March, the registrations virtually broke even with the three-year av-

(Continued on Page 2)

Ayres Sees Trade Ready For Upturn

Cleveland, July 16.—Business is ready to turn upward, in the opinion of Col. Leonard P. Ayres, vice-president of the Cleveland Trust Company, in the bank's current business bulletin. It is clear, Col. Ayres points out, that business will reach its low ebb in July and he expects this to mark the turn of the tide.

"The reasons," Col. Ayres said, "for believing that business will be better in August than in July, and better in September than in August, do not rest merely upon a basis of general hope. The automobile companies are definitely planning to increase their outputs in those two months, and the most important steel companies have orders received or in sight, sufficiently large to increase their production materially. The volume of new construction is slowly but persistently growing, and that industry seems able to hold its gains.

"During the first half of this year all statistical comparisons have been made between the figures of an early month of 1929, when prosperity was advancing to boom proportions, and those of the corre-

(Continued on page 4)

St. Louis New Car Sales in Half Year Only Off 885 Units

By ROBERT L. BRADLEY

ST. LOUIS, Mo., July 16.—The sale of new passenger cars and trucks in St. Louis and St. Louis county in the first six months disproves the contention that there has been a bad decline as compared to 1929. Figures compiled for the Automotive Daily News by the St. Louis Automobile Dealers' Association, based on official registrations, reveal that from January 1 to June 30, 1930, 21,150 new cars were sold, as against 22,030 in the first six months of 1929, a decrease of only 885. As for trucks and commercial cars, there has actually been a gain—[illegible] units were sold in the first [illegible] of this year, compared to 2,315 [illegible] he 1929 period, an increase [illegible].

[illegible] tabulation by months shows [illegible] new car sales fell off during [illegible] of the months and were up in [illegible]ary, as follows: January, down [illegible]February, up 528; March, down [illegible] April, down 1,196; May, down [illegible]nd June, down 899.

[illegible]or Robert E. Lee, manager of the dealers' association, is of the opinion that this record reflects the 1930 sales trend over the entire country with the exception of February. He attributes the increase in that month to the fact that in Missouri the state's fiscal year commences February 1, and for that reason, he states, dealers held off registering many sales made in the latter part of January.

As regards trucks, sales increased during three of the six months, with January up 16, February up 299, March down 136, April down 118, May up 34 and June down 41.

Of this situation Major Lee had this comment to make: "Truck sales depend on seasonal demands of the consumer. The fact that registrations in this classification were greater in the first two months, less in the next two, up in May and down in June simply means that certain classes of truck users needed replacements at different seasons, whether it

(Continued on Page 3)

TODAY

Sparks from Detroit ..... Page 2
Ford and Chevrolet sales brisk in Denver and Seattle ..... Page 3
Deans of the Dealer World. Page 3
Editorial: A Modest Request Page 4
Calendar of coming events Page 4
Wholesale news and views Page 5
Engineering, production, factory, Pages 10, 11

REFERENCE TABLES

Current prices of passenger cars, Page 6
Major specifications and mechanical details of passenger cars, Pages 8, 9

Use of Metals in Motor Industry Sets New Peak

NEW YORK, July 16.—The American Bureau of Metal Statistics estimates the use in 1929 of the principal non-ferrous metals in the automobile industry, and especially in automobile manufacture, at 35,000 short tons of copper, 40,000 tons of zinc, 19,000 tons of tin, 18,000 tons of lead and 38,000 tons of aluminum, a total of 250,000 short tons.

This compares with 125,000 tons of copper used in 1928, 31,500 tons of zinc, 20,000 tons of tin, 17,000 tons of lead and 34,000 tons of aluminum, a total in 1928 of 227,500 short tons.

W. R. Ingalls, director of the bureau and leading authority on non-ferrous metal statistics, says that these estimates are based on: "(1) reports of use of the several raw materials where the manufacturer starts with them in form of ingots, bars, sheets, etc.; (2) computation from the number of cars made and quantity of the several metals entering each make of car, truck or tractor in all other instances; and (3) plus a small allowance for the metals entering replacement parts.

"As in all statistical estimations of this nature, when intelligently and conscientiously done, the totals are probably on side of underestimation. Without any doubt the automobile industry is responsible for a larger use of the non-ferrous metals than what we accredit to it. Our allowance for consumption in repair work is low. The extensive use of

(Continued on page 11)

New Car Sales in 1930 Top Three-Year Average

(Continued from Page 1)

erage, amounting to 298,824, as compared with the average of 297,641, a gain of four-tenths of 1 per cent.

The situation was reversed through April and May, with sales holding below the average level. The April, 1930, total was 357,064, as against 380,593 for the three-year period, a decline of 6.2 per cent., and in May sales were 345,041, as against the average of 373,663, a decline of 7.6 per cent.

January sales in this year, 180,094, compared with 135,908 in the corresponding month of 1928 and 174,655 in 1927, topping both, although substantially below the 219,844 units in January, 1929. February sales this year also topped both February, 1928, and February, 1927, amounting to 211,645, as against 165,316 in 1928 and 180,070 in 1927.

March, 1930, registrations of 298,824, compared with 254,881 in March, 1928, and 259,698 in 1927, substantial gains in each case, and with 378,346 in March, 1929.

In April registrations continued to be higher than the corresponding month in 1928 and 1927, but in May sales fell below the corresponding month of 1928, although they were higher than in May, 1927. April registrations of 357,064, compared with 327,703 in 1928 and 327,703 in 1927, while May registrations were 345,041, as compared with 351,509 in May, 1928, and 315,328 in 1927.

On the basis of the first returns, showing new car registrations in June, it is apparent that the decline in that month from last year was substantially higher than the 21 per cent. for the first five months of the year and it is probable that the total will show a decline from the three averages in line with the falling off in April and May.

It is not likely, however, that the decline under the three-year average will be sufficient to bring the sales for the first six months to below the average for the corresponding period in 1929, 1928 and 1927. It is therefore apparently certain that new car registrations in this country for the first half year were above the average for the three preceding years, leaving the upward curve unimpaired.

In connection with this gain in retail sales over the three-year average, it is interesting to note that the production has been lower than the average for the same period by about 10 per cent. This is another proof of the fact that the manufacturers this year have kept their assurance to dealers that they would hold their output to the actual retail demand and not force cars on the retailers.

Following is a table showing the new car registrations for the first five months of this year, as compared with the corresponding period of the preceding three years and with the monthly average for the years 1929, 1928 and 1927 indicated:

	1930	1929	1928	1927	3 yr. av'ge
January	180,094	219,844	135,908	147,655	176,802
February	211,645	235,337	165,316	180,070	193,574
March	298,824	387,346	254,881	259,698	297,641
April	357,064	481,896	332,180	327,703	380,593
May	345,041	454,153	351,509	315,328	373,663
Totals	1,392,668	1,769,527	1,241,770	1,257,454	1,322,917

ROCHESTER LUBRICANT TO HANDLE HY-VIS PRODUCTS

Rochester, N. Y., July 16.—The Rohester Lubricant Compang, newly organized, has opened offices at 770 Exchange St. here to act as sole distributor in Monroe, Wayne, Livingston and Ontario Counties for Hy-Vis oil products. Arthur E. Perkins and Homer L. Perkins, both of Rochester and formerly associated with the Kendall Refining Company, together with Fred D. Bosche of Buffalo, head the firm.

PETROLEUM GROUP FORMS COMMITTEE ON TRANSPORTATION

New York, July 16.—Appointment of a committee on automotive transportation has been announced by the American Petroleum Institute's division of production. The chairman is R. F. Fike, Mid-Continent Petroleum Corporation, Tulsa, Okla., and D. V. Stroop, American Petroleum Institute staff, is secretary.

Chairman Fike, in a tentative outline of activities for the committee, has suggested three general divisions for investigation and recommendation. These are standardization of equipment and adoption of codes of recommended practice and manuals for drivers, and the care and loading of vehicles; matters related to legislative regulations, and general.

The proposed driver's manual would include provisions for the necessary physical and mental qualifications of drivers, the care of vehicles, road regulations and courtesies and general instructions for improvement of the driver's efficiency. The manual on loading trucks and trailers would include instructions on the proper, safe and most efficient manner of loading oil field equipment, such as boilers, engines, rotary equipment, etc., as well as proper distribution of weights. Standardization of trailer equipment also is suggested as a subject for committee consideration.

Under matters related to legislative regulations, it has been suggested the committee consider the conflict in state regulations as to weights, widths and lengths of trucks and truck trains. It is believed some recommendation could be formulated for a uniform method of rating applicable to all states. The committee may consider also the development of recommendations for state or municipal regulations to permit the carrying of heavier loads in view of the tendency in producing areas to abandon single high pressure tires in favor of dual high pressures, single balloons and dual balloons. Such tire equipment, it is believed, makes possible the transportation of heavier loads, without injury to highways, than present traffic regulations permit.

Under the head of general activities is listed an effort to discourage the use by oil organizations of cheap second-hand equipment which is becoming an increased hazard on the highways.

R. E. CARPENTER OF SPICER SAILS ON EUROPEAN TOUR

Toledo, July 16.—R. E. Carpenter, vice-president and general manager of the Spicer Manufacturing Corporation, together with Mrs. Carpenter, sailed today on the Leviathan for Europe to attend board meetings of the Spicer British and French companies. During Mr. Carpenter's sojourn in Europe he will also visit the trade.

SPARKS from DETROIT

Vacation Days in Detroit

* * *

Guy Brown Europe Bound

* * *

C. A. Best Hits the Road

* * *

THIS is the dullest period of the present year in the motor car business in Detroit. Those officials who are not enjoying a vacation are away from the city studying conditions in various parts of the United States and making ready for fall trade.

With the closing of the Ford plants for a two weeks' period for inventory, a large number are leaving for lake resorts throughout the state, although the assembly lines at the Rouge factory will be kept running for a few days.

* * *

THIS office is being constantly asked for data on the sales of four, six and eight cylinder automobiles. While sixes and eights are very popular cars, a glance at the sales figures for four-cylinder motor automobiles show them to be well up, due to the fact that Ford, Overland, Plymouth and Austin are making and selling this type of car.

* * *

Guy Brown, vice-president of the Campbell-Ewald company, and his family expect to leave in a few days for Europe, where they will spend some time.

* * *

C. A. Best, general sales manager of the American Austin Car Company, is away from Detroit for a week on business, as are Earl Wilson and R. M. Rowland of Chrysler.

* * *

HARRY KLINE, advertising manager of Continental, has just returned from his vacation with the following summary of amusing events:

"While going out to our cottage," said Kline, "my automobile turned over. At the time it was fully loaded with clothing, bicycles and what not. I finally had it towed to a garage and telephoned for my son to come for me. His car developed tire trouble on the way and he was greatly delayed in arriving. The next day I went out fishing with a friend and the outboard motor on his boat slipped off and went to the bottom of the lake. We managed to fish it out after several hours work, but we didn't get any real fish. The following day I heard my dog howling back of the cottage. I went out and found him with his mouth full of porcupine quills. To cap the climax, when I got out of an automobile to come up stairs here a few minutes ago, I turned my ankle, and now I must go out and see a doctor about that. If you call vacation fun, well, just call it fun, that's all."

"I BELIEVE the Willys Six is one of the greatest automobiles ever built. Its performance is certainly remarkable for a car in this price class."

—Pederson Motors, Inc.
Minneapolis, Minn.

Write or wire for franchise details

WILLYS-OVERLAND, Inc.
TOLEDO, OHIO

WILLYS-OVERLAND SALES CO., LTD., TORONTO, CAN.

Carry 2 Spares with T-N EXTRA TIRE CARRIER

DEALER'S JOY

AN EXTRA TIRE and tube, an extra rim, another tire cover, all go on the same cash ticket with T-N Double Carriers. This means joy for the dealer, and comfort, freedom from tire trouble worry, for the car owner.

RETAIL PRICE { Chevrolet 6, 1929-30, $4.00 / Other Cars, $3.00 Per Set

Thompson-Neaylon Mfg. Co.
3545 South Morgan Street
Chicago, Ill.

MARYLAND DEALER ASSOCIATION HOLDS ITS FIRST MEETING

(Continued from Page 1)

cars on dealers, whether or not they can be sold at a sound profit, Thomas W. Wilson, president of the Wilson-Nash Company of Baltimore, sounded the keynote speech of the meeting.

Mr. Wilson said that the blame for the so-called "used car problem" reverts back to the manufacturers who attempt to put 5,000,000 cars in a 4,000,000 car market.

John E. Raine, general manager of the association, demanded a closer knit dealer organization in the state, and declared that if automobile dealers were as well organized as the farmers of the country, they could, with equal justification, demand government purchase of surplus automobiles.

NEW YORK CAR MERCHANTS TO PLAY GOLF ON JULY 22

New York, July 16.—On Tuesday, July 22, members of the Automobile Merchants Association of New York, Inc., will meet at the Green Meadows Country Club at Harrison to play the fourth monthly golf tournament of the season. Because of the keen enthusiasm which prevails among the members at these monthly get-togethers, the golf committee, consisting of Messrs. C. H. Larso chairman; Fred J. Ryan, vice-chai man; C. H. Jennings and A. Southworth, are looking forward a record attendance.

Ford and Chevrolet Sales Brisk in Denver

BOTH USED, NEW CARS GOING WELL

Seattle Ford Dealers Report 200 Sales In Five Days

DENVER, July 16.—For the most part, business among Ford and Chevrolet dealers of Denver is opening up exceedingly well for the first half of July.

Sales of both new and used cars are brisk, and the dealers are experiencing little difficulty in disposing of their merchandise. All of those interviewed have their used car situation well in hand, with stocks in general running rather low.

Viner Chevrolet, Inc., the south Denver dealer, has sold, since July 1, twenty-eight used units and fourteen new, while there are eighty-two on hand. Ted Viner of the company declares that while this latter figure is somewhat high, it is not high enough to cause any alarm, especially since there is a ready market for good used cars.

Trucks are selling well with this firm, although the season hereabouts for trucks has hardly gotten into its full stride.

According to H. S. Gregory, sales manager for the Vandemoer-Taylor Motor Company, downtown Ford dealers, the company now has on hand sixty used cars, with sales since the 1st of July of fourteen used cars and fifteen new.

The used car stock is about normal, while truck business is fair. Business with this firm is characterized by Mr. Gregory as good, and getting better.

George Irvin, Inc., has sold twenty-three used units since July 1, with eighteen of this number sold in six days. A total of sixteen new Fords has been sold, while the used car stock on hand at this time is twenty-five, a figure believed to be the lowest of any of the major dealers in Denver.

This company is endeavoring to keep their used stock as low as compatible with good business, and considers this figure ideal.

Truck business has been good since July 1, with two new and six used jobs sold.

A. M. O'Meara, of the O'Meara-Young Motor Company, says that business with his firm is excellent, with figures for June very good, and July business starting in even better.

The company has sold forty new cars and twenty used units since July 1, with the present stock on hand of used cars sticking close to the normal figure of sixty.

According to Mr. O'Meara, the company is getting a complete turnover of used cars every thirty to thirty-five days.

A. C. Hickerson, of the Thomas-Hickerson Motor Company, east Denver Ford dealers, characterizes sales as excellent, with twenty-one new cars and fourteen used units sold in the first ten days of July. This company now has on hand a stock of thirty-one used cars which is about normal, a stock of twenty-eight to forty being the usual number on hand.

Mr. Hickerson says that shop and parts business has been particularly good of late, with the entire force busy all of the time.

The Rogers-Platt Chevrolet Company has sold so far in July twenty-two used cars and nine new, with the used car stock on hand at thirty-five, which is somewhat lower than usual.

Business with this firm is particularly good on used cars, although the new car sales are not up to the expected figure. Trucks are selling fairly well, although this company because of its location cannot concentrate on truck sales to any extent.

F. J. Wienecke, sales manager for the Gates-Wimbush Motor Company, says that business is good, with twenty used cars sold so far this month and twenty-five new. Stock on hand of used cars at the present time is forty, which Mr. Wienecke says is about right.

Truck business with this Ford dealer is fair, with two used sold, and four new, beside four pickup jobs.

The Luby Motor Company, located at 1212 14th St., this week joined the ranks of Chevrolet dealers, by taking over the distribution for the downtown district.

The Luby firm now becomes the sixth Chevrolet dealer in Denver. The company formerly handled the Hudson and Essex lines, and will continue to service these lines for some time.

SEATTLE, Wash., July 16.—Ford new car sales were of the slam-bang variety the past week in the Seattle territory, week of July 7 to 11, inclusive, running slightly over 200, while Chevrolet also enjoyed a good week, with over forty, according to the official figures obtained from the records showing new car registrations.

Added to the early July registrations, the month bids certain to rank up high for these two popular makes. Local Austin dealers report good interest in the bantam car, with a few sales, but no Austin registrations in King county the first ten days of the month. One shoe dealer has an Austin sedan for delivery purposes and it is attracting much attention as an advertising novelty.

Another good week is the story at the William O. McKay Ford dealership, where "business is always good." Used cars also in brisk trade here.

The "Okehed" used cars of C. H. Wells, Inc., Chevrolet dealer, are in keenest demand, the public showing preference for "Wells' Better Used Cars," as the firm's advertising runs, rather than for the cheaper cars "as is." The "okeh" Wells cars sell as low as $150 and buyers seek them at up to $600 most popularly. Used to new car ratio about equal in the past week, according to Retail Sales Director Montelius.

"We have under ninety used cars in stock now," he declared. "We need '27 and '28 Chev. sedans, '27, '28 and '29 roadsters to complete our stocks."

July has the earmarks of a good month, is the report of other Ford and Chevrolet dealers. There are many signs of general business improvements in this territory.

Bert Blangy, Inc., Ford dealer, is doing steady business. E. P. Cochran, assistant manager, is also sales manager at this time, succeeding Horace Warne, who has gone to Hudler Motor Company, Everett, Wash., Ford dealer.

"We are having a good month in both new and used-car business," is the statement of Mr. Blangey.

MUDD MOTOR CO. OPENS NEW TRUCK BUILDING

Chicago, July 16.—Complete segregation of car and truck sales efforts has been accomplished by the Ray F. Mudd Motor Company, veteran Ford dealer here, through opening of a newly completed building at 4611 West Madison St., which will house the company's Ford truck division. Headquarters of the firm's car business remain as heretofore at 4301 West Madison St.

The new truck department structure is one story in height, fronting seventy-five feet on Madison Street, and extends 175 feet in depth. The Ray F. Mudd Motor Company has had a Ford agency in Chicago since 1917, during which time it has sold and delivered more than 24,000 Ford cars.

MASSACHUSETTS TO TAKE TRAFFIC CENSUS IN AUGUST

Boston, Mass., July 16.—A traffic census of the state is to be taken in August, some 360 stations being arranged for the purpose. The number of visiting cars will be noted, and every one provided with a "Guest of Massachusetts" sticker. The count will include home and visiting cars separately. Count will begin August 18, which is about the peak of summer traffic, and will continue for sixteen hours daily. At twenty-nine "key stations" the count will be kept up for a full twenty-four hours on Wednesdays, Saturdays and Sundays. Eight hundred enumerators will be employed, but no cars will be stopped or delayed.

TO SELL FORD LINE AT BIRMINGHAM, ALA.

Birmingham, Ala., July 16.—A. K. Dement, who has been connected with Ford sales in this section for the past sixteen years, announces the opening of the Al Dement Motor Company at 33d Avenue and 27th Street, North, where he will have a modern and completely equipped Ford sales and service establishment.

TACOMA N. A. D. A. STARTS BIG NEWSPAPER CAMPAIGN

Tacoma, Wash., July 16.—Members of the Tacoma chapter of the National Auto Dealers' Association have launched an intensive newspaper campaign to stimulate sale of used automobiles. The Tacoma chapter is composed of twenty-one new car dealers.

CHEVROLET MAKES FIVE CHANGES IN THE ZONE OFFICE AT FARGO, N. D.

Fargo, N. D., July 16.—Five changes in the personnel of the Fargo zone office of the Chevrolet Motor Company were announced here this week.

T. F. Kinman, zone manager, has been transferred to Omaha, where he will become zone head. M. A. McNiff, assistant to Mr. Kinman, has been promoted to the position of zone manager. A. B. Carlson, former sales promotion manager, has been promoted to assistant zone manager.

L. P. Olson, who has been office manager, will take Mr. Carlson's place as sales promotion manager. Neil Vogel, Grand Forks, a territory representative, will become office manager.

ST. LOUIS NEW CAR SALES ARE ONLY 885 UNITS BEHIND 1929

(Continued from Page 1)

was for highway construction, wholesale purposes or for retail deliveries."

Discussing the general condition of the automobile industry in this city and county, which comprises all of the principal suburbs between the Missouri and Meramec Rivers, an area of more than 500 square miles, Major Lee declared:

"Conditions are now improved and there is a very cheerful feeling among both the distributors and dealers in motor cars. We now feel that we are entering a selling era. The local situation is particularly good in that we have had no failures and no withdrawals from business among our dealers or distributors and none are expected."

Of the situation generally, Lee, who is recognized nationally as an authority in the automotive field, said:

"The description, 'First to fall off and last to recover from financial depression,' applied to the automobile business, has been true in the present depression. Automobile buying began to slow up after the stock market crash last September, and it remained slow up to the first of June. Beginning with June, however, the automobile dealers have found that the 'buyers' strike' is being withdrawn and that inquiries are more numerous and sales have improved. The month of June showed a very satisfactory sales condition."

As an example of sales in the lower-priced field in June in St. Louis and St. Louis county, the Ford total was 1,002 this year, as against 1,071 in 1929, a decline of 69, while Chevrolet's was 545 last month and 638 a year ago.

Used car stocks are well below those of a year ago, according to representative distributors and dealers. During the past two months a noticeable drive has been on to dispose of these stocks, in preparation for the introduction of the new models, and in anticipation of an improvement in new car sales in the fall. The dealers have been advertising steadily in the daily newspapers, in some instances to the exclusion of new car copy, as has been the case in other large cities.

The comparison by months follows:—

NEW CARS

	1930	1929
January	847	1,190
February	5,564	4,036
March	3,768	5,396
April	3,626	4,822
May	2,934	3,281
June	2,411	3,310
Total	21,150	22,035

TRUCKS

	1930	1929
January	144	128
February	814	515
March	443	579
April	361	479
May	340	316
June	257	298
Total	2,359	2,315

BROOKLYN BUICK DEALER CLOSES USED CAR SALE

Brooklyn, N. Y., July 16.—Kings County Buick, the only Buick dealer here, has just brought to a close a most successful used car sale, which was conducted for a period of ten days and resulted in a very substantial reduction in their used car inventory. Reconditioned Buicks and used cars of other makes, were included in the fine assortment offered.

Deans of the Dealer World

A VIGOROUS, middle-aged man, whose hobby is horseback riding, is credited with being the dean of Cleveland automobile dealers.

That man is R. J. Schmunk, president of the R. J. Schmunk Company, Hudson-Essex distributor since 1922. His record in the automobile business runs back to 1899.

Schmunk was born in Cleveland fifty-four years ago, the son of Police Capt. John Schmunk. His first work was with a bicycle parts concern that late in the last century started manufacturing the Borg electric automobile.

There the policeman's son learned mechanics. Then he went to work for the White Company, at that time makers of sewing machines alone.

In 1900 Schmunk and Roland White built one of the first White steamers. Schmunk drove it.

He stayed with the White Company eight years, aiding in the building and marketing of its cars. Then he went to Boston as dealer for the Rainier, moved from there to New York as manager of a service station and garage, and returned to Cleveland to join the Ohio Buick Company.

After a brief period with Buick, he joined the Peerless Motor Car Corporation organization, spent fourteen years with it, rising to the position of general manager.

Eight years ago he retired from that company and organized the distributing firm that bears his name.

Schmunk is a member of the board of directors of the Cleveland Automobile Club, was chosen as its president in 1929, and is a member of the Union Club and the Cleveland Athletic Club.

He was married thirty-two years ago and is the father of three daughters.

Publicly he acclaims horseback riding as his chief hobby, and there is no question about his love for that sport.

But those intimately acquainted with him have discovered another hobby—crippled children.

When R. J. Schmunk is not in his office, the next best bet of locating him is at Rainbow Hospital for Crippled Children.

He has worked diligently for the maintenance of that institution, and one of his secret pleasures is to take a big auto, load it full of the luckless children, and go touring through the pretty rural sections of northern Ohio.

He has served as councilman of his aristocratic residence suburb, Gates Mills, and once became an unsuspecting candidate for mayor. As soon as he learned his name had been proposed, he withdrew it.

Dealer Activities

Asheville, N. C., July 16.—Thomas Buick Company, local Buick dealership, has just been chartered here with an authorized capital of $40,000. The incorporators are Leslie Ford, F. L. Fuller, Jr., and Jones Fuller of Durham.

New Brunswick, N. J., July 16.—Fourteen automobile dealers of this city joined the recently formed retail merchants' division of the Chamber of Commerce.

Rochester, N. Y., July 16.—W. E. Biggers and associate of Buffalo, operating the firm of W. E. Biggers, Inc., Graham distributor, have organized and incorporated the W. E. Biggers Rochester Corporation. Headquarters have been established at 749-769 Monroe Ave., where complete sales and service facilities for Graham cars will be furnished. Construction contract for remodeling the plant has been awarded. Harvey R. Stewart, formerly president of the Paige Sales Company, Inc., has associated himself with the new organization and will act as general manager.

Jacksonville, Fla., July 16.—C. C. Kirby, Inc., 500 West Adams Street, second oldest established automobile dealer in this city, has just acquired the franchise for distribution of De Soto and Plymouth automobiles in this territory.

Beverly Hills, Cal., July 16.—The partnership of Rickershauser & Miller, Nash dealer, 463 North Roxbury Drive, has been dissolved and Charles E. Rickershauser has relinquished his interest to Roger H. Miller, who will hereafter conduct the dealership under his own name.

Kelso, Wash., July 16.—B. J. Ghent, who heads the Long Star Motor Company of West Kelso, Cowlitz county Durant dealer, has been appointed Cowlitz county dealer for the American Austin automobile.

Hagerstown, Md., July 16.—The Hagerstown Hudson-Essex Company has been reorganized, with three former employees taking over the contract. The new management is now renovating a store room at 45 East Washington St., which will be formally opened today. The new building will comprise a large showroom, to accommodate six automobiles, service parts, etc. A large repair shop is also being built. E. H. Cashell, formerly assistant zone salesman of Cincinnati, will be sales manager for the new company; William Cullum will be in charge of the service department, and William J. Meighan, former district sales manager of the Hudson Company in Lexington, Ky., will be office manager.

Cambridge, Mass., July 16.—Henley-Kimball Company, Boston, New England distributor of Hudson-Essex cars, has inaugurated a bus service from its service station at 157 Vassar St., this city, to connect with the Central Square subway station, five minutes from Boston's shopping district. Since this free service for customers was started, there has been a considerable increase in service business from Boston owners, who heretofore found it inconvenient to leave their cars for servicing while they went to business.

Des Moines, Ia., July 16.—More than 100 Chrysler dealers from thirty-five central and southern Iowa counties attended a special sales meeting in offices of the Manbeck Motor Sales Company, Chrysler distributor, 1208 Locust St., last week. S. W. Munroe, Detroit, director of sales, was principal speaker, emphasizing the necessity of real salesmanship in this period and reporting that in thirty-nine states, where statistics were available, Chrysler sales had reached 97 per cent. of the peak volume of May, 1929, contrasting this record with the industry.

Bridgeport, Conn., July 16.—Advertising featuring the offer "20 per cent. off if you have no car to trade in" proved a successful used car merchandising stunt for the Blue Ribbon Garage, Inc., 283 Fairfield Ave., here, Dodge and Plymouth dealership, according to Chris (cq) Weidemann, used car sales manager.

Charlotte, N. C., July 16.—Austin Automobiles, Inc., local Austin dealership, has been incorporated with an authorized capital of $20,000. The subscribed stock is $300. Incorporators are Jesse W. Page, Jr., Nelson C. Hyde and Murdoch M. Johnson.

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday and Monday by
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION,
350 Hudson St., New York, N. Y.
O. J. Elder, President. H. A. Tarantous, Vice-President. Alexander Johnston, Secretary.

Entered as second-class matter August 27, 1925, at the post office at New York, N. Y., under the Act of March 3, 1879.

Circulation—Net paid Average over 10,000 daily guaranteed.
Member A. B. C.

THURSDAY, JULY 17, 1930

ADVERTISING AND BUSINESS HEADQUARTERS

2716 Graybar Bldg., New York, N. Y. Telephone LEX ington 6388
Harry A. Tarantous, Business Manager. J. Edward Schipper, Eastern Manager. George M. Slocum, Manager Detroit Bureau, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Central 5936; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash. Address ALL advertising and business correspondence to 2716 Graybar Building, New York City.

EDITORIAL DEPARTMENT

350 Hudson St., New York, N. Y. Telephone CAN al 1000
Alexander Johnston, Editor. William C. Callahan, News Editor.
Detroit Bureau—Fred Kingsbury, Editor, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500. Contributing Editor, John C. Wetmore. A. Benson Carleton, Technical Editor.

Mail subscriptions to CIRCULATION DEPARTMENT—C. H. Wilson, Manager.
1926 Broadway, New York, N. Y. Telephone TRA falgar 4500
Subscription Rates—One year, $12.00; two years, $20.00, for United States and Canada. To Foreign Countries—One year, $15.00; two years, $26.00. Single copies, 10 cents.

A Modest Request

TWO gentlemen from Kansas, personages no less than Senators Arthur Capper and Henry J. Allen, have recently come forward with a modest and interesting proposal, which would have the Federal Farm Board purchase 100,000,000 bushels of wheat. This maneuver, the gentlemen from Kansas believe, would stabilize the price of wheat and would help the farm price situation generally. Certainly it would be welcomed by the constituents of Messrs. Capper and Allen, who raise a considerable quantity of wheat on their Kansas farms.

Exactly why is it that the farm industry considers itself as the inevitable and proper recipient of Federal charity in any crisis that may be encountered? Running a farm is an industrial job, just as much as building motor cars or sewing machines, or operating a factory of any other type. The farmer is a capitalist in his individual operations, quite as much as the owner of a manufacturing plant.

Last year the automotive industry overproduced, exactly as the farmer overproduced wheat, and as the Southern farmers have frequently overproduced cotton. As a result of its own economic error, the automotive industry has suffered severely in 1930. A great many dealers have been driven out of business. It was no fault of theirs that overproduction compelled them to conduct their operations on an uneconomic basis, but they have suffered just as much in pocket as if they had done it willingly, and welcoming the risk they were taking.

If we asked the automotive division of the Department of Commerce to buy $100,000,000 worth of motor vehicles to relieve the situation of the automobile dealers, just how would the farmers welcome the proposal? We venture to believe that their shrieks of anguish would be audible from Maine to California and North Dakota to Florida.

In actual fact the automotive industry overproduced last year, realized its mistake and set about curing its malady. The industry reduced production and allowed what dealers it had left to clean their floors of the excess units that had been forced upon them.

To our prejudiced eyes we can see little difference between Senators Capper and Allen asking the government to buy wheat to save the grain industry, and Senator Couzens of Michigan entering a plea for the Federal purchase of motor vehicles to relieve the condition of dealers handling such lines.

The sooner the American farmer realizes that his activities are governed by economic laws, just exactly as are those of any manufacturing industry, the sooner there will be an end of these recurrent attempts at passing the Federal hat for farm relief. Farm relief has got to begin on the farm. Farmers have got to learn the rudiments of business administration and conduct their capitalistic operations by the same methods of budget planning that business executives use. The average farmer still thinks of farming as a sort of game, not very interesting perhaps, but certainly not a business such as manufacturing or retailing. He conceives himself as a sort of benefactor of the country at large, working harder than most people do for a very small cash return, entitled to demand a class charity from the Federal Government that no other working group would think of requesting.

As a matter of fact there are many classes of workers, just as important to the welfare of the country as a whole as are the farmers, who are worse off than these. To begin with, the farmer gets most of his living from his land. He is housed where he operates. His actual cash income may not be as large as that of the industrial worker or the artisan, but at the end of the year the latter has far less cash in hand above what he has had to pay for mere living expenses, rent, food and the incidentals of urban residence. Yet we never hear demands from the united industrial workers of America that the government buy finished products of various kinds in order to give them work. Yet "Buy a bale of cotton" campaigns have been with us in the past and this year perhaps we shall have a "Buy a bushel of wheat" drive.

With the census compilation about half completed, with 60,000,000 of our population accounted for, we are told that 1,200,000 unemployed have been listed. These are not farm laborers nor farmers. They are almost completely industrial workers or salesmen depending on the output of industry for jobs. If a class dipping into the public Treasury ever is justified, surely the industrialists are the ones who might claim Federal aid. Their plight at the present time is far worse than that of the farmers.

Grants, subsidies and governmental charity never will cure an economic error. The sooner that the farmers of America place their operations on a strictly business basis and treat the working of their farms as the industrialist does the operation of his factory, the sooner they are going to get "farm relief." The automobile industry last year, produced more vehicles than the demand justified. It is paying the penalty this year and is learning from adversity a lesson that will be applied in more exact methods of estimating the market and setting production schedules.

Last year the farmers of America produced more wheat than the market justified. An altogether too large proportion of the crop had to be carried over. Yet the farmers this year are producing just about as much wheat as they did last year, and now this is coming piling in on the still unsold residue. The Department of Agriculture has just broadcast a warning to farmers that they must reduce their wheat areas or they will make no profit from this staple for the next ten years.

In spite of the lesson they have had; in spite of the warnings of the Department of Agriculture, our guess is that the farmers will plant too much wheat again next year and the year after, and as their economic indigestion becomes more acute they will shriek louder and louder for government paregoric in the shape of farm relief.

This business of Federal aid is a debilitating gesture. Once let any class of citizens get the idea that it can get its feet in the public trough and its whole attitude changes. It declines to trust its own efforts and merely lifts its voice higher and higher in appeals for Federal charity.

The automobile industry made a mistake and is rectifying it, in sackcloth and ashes and plenty of good wholesome work.

The farm industry made a mistake and is yelping for the government to step in and cure the resulting pains.

Which industry is going to get back on its feet quicker?

EMPLOYMENT STATUS IN JUNE IS STEADY

(Continued from Page 1)

number of unemployed during the month.

The employment situation in Ohio showed a slight improvement in certain lines. While several branches of the tire and rubber industry worked full time, other branches continued on part time with curtailed forces.

Employment in Toledo showed a slight decline, with part-time reported in a number of plants. Curtailed schedules continued in Cleveland in the automobile accessory factories.

Several plants in the tire and rubber industry in Akron continued on a three 8-hour-shift-daily basis, while several others worked two 10-hour shifts with curtailed forces engaged.

Condensed reports from other automotive centers of the country follow:—

WISCONSIN

Part time continued in most industrial factories, although several large factories operated full time with normal forces engaged.

Milwaukee—One rubber factory suspended operations, releasing 1,400 employees.

Racine—All plants operated, except a rubber tire factory which closed, releasing 800 men.

Kenosha—Manufacturing activity in several of the major industries showed a downward trend.

INDIANA

Part-time operations prevailed in the majority of automobile and accessory factories, iron and steel mills, bolt and screw factories, and automobile-body plants.

Indianapolis—Practically all industrial establishments were in operation, several on part time with reduced forces engaged, including automobile and accessories factories.

South Bend—Operations were curtailed in several industries and a general surplus of labor existed.

Elkhart—Factory operations continued on part-time basis and in most instances with reduced forces.

ILLINOIS

Manufacturing activity and employment continued rather quiet during June. Part-time schedules prevailed in several branches of the iron and steel industry, automobile accessory factories, and rubber plants.

Chicago—A general surplus of labor was apparent at the end of the month.

MISSOURI

Little change was noted in employment in iron and steel mills and other industrial plants.

St. Louis—No noticeable change occurred in employment in the automobile factories and allied lines.

NEW YORK

Seasonal influences, such as inventory taking and repair work, were partly responsible for the curtailment of activities in some lines. Many of the automobile plants curtailed production and forces.

New York City—There was a seasonal curtailment in industrial employment, with many plants working on part-time schedules.

Buffalo—A recession in manufacturing activity was noted in practically all the larger industries. The automobile industry curtailed production and employment, one plant closed temporarily, while others expect to close for about ten days for inventory taking and repairs to plant equipment.

Rochester—A further curtailment in manufacturing activity was noted in several industries. Many plants worked part-time or closed for mid-year inventory taking.

Syracuse—The automobile industry released about 500 men, and factories producing gears operated with greatly reduced forces.

NEW JERSEY

A recession in manufacturing generally and a decline in employment were reported in several major industries and part-time employment was apparent in practically all lines.

PENNSYLVANIA

Part-time employment in manufacturing plants was quite general and a large number of workers were idle throughout the state.

Philadelphia — Some automobile plants engaged additional help, but operations were still on a curtailed basis.

Pittsburgh—A further slight recession occurred during the last month, particularly in the iron and steel mills.

Allentown—A surplus of labor continued in all lines, while a large motor plant operated part time with reduced forces.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

AYRES SEES BUSINESS READY FOR UPTURN

(Continued from Page 1)

sponding month of this year, when depression prevailed. In the second half of this year such comparisons will make better showings, for in that portion of 1929 business activity was rapidly shrinking, and in the last part of 1930 it is likely to be gradually advancing. From this time forward the sentiment of business should improve.

"Wholesale prices of commodities have been declining almost without interruption for nearly a year. Their persistent weakness during recent months has led many people to conclude that conditions of general business cannot improve until the price declines are checked, and that downward revisions of industrial wage rates will have to be made before normal volumes of production can be restored. A consideration of the history of price changes in this country during the past few years does not support these conclusions.

"Probably it is not necessary to search among obscure economic influences to find the reasons for some of the most important of the recent price declines of staple articles entering into international trade. The production of coffee, sugar, rubber and copper was overstimulated in recent years by the artificial aids of price control schemes, and by great misfortune all these plans for price propping broke down in rapid succession, and at a most inopportune time. Our own plans for the support of the prices of wheat and cotton are still in operation, but it is hardly to be expected that any better fate awaits them.

"High interest rates in 1928, and actual credit stringency in 1929, caused by excessive security speculation in this country, but with effects seriously felt throughout the world, constitute a less direct but more far-reaching influence making for commodity price declines in recent months. Those high interest rates hampered international trade and restricted international financing. Distribution of goods declined, while production continued, and so surpluses were built up, which are now being pressed for sale at reduced prices."

FULTON CO. REPORTS BUSINESS AS GOOD

Milwaukee, July 16.—The Fulton Company is enjoying a good business, according to S. A. Fulton, head of the concern which manufactures all kinds of automobile accessories, including horns, accelerator pedals and accelerators, as well as wheel locks and glare visors.

The company has an annual sales volume of about $1,000,000 with 15 per cent. of the shipments to foreign countries. Associated with Mr. Fulton are his brother, Frank P., as vice-president of the company, and Louis M. Fidler, secretary.

AUBURN SHOWS GAIN IN EUROPEAN SALES

Auburn, Ind., July 16.—An increase in sales of cars in Europe by Auburn in the first six months of 1930 over the same period last year was announced today by R. S. Wiley, export manager.

In twelve recent beauty contests the Cord has won eleven first prizes and two seconds. One of the prizes was the Grand Prix plus the Cup of Honor at Monte Carlo, the highest award ever given an American automobile.

A slight increase in sales in the Far East was also announced by Wiley for the first six months of the year.

COMING EVENTS

AUGUST

26-28—**Chicago, Ill.** Society of Automotive Engineers aeronautic meeting in conjunction with National Air Races.

SEPTEMBER

22-26—**Chicago, Ill.** American Society for Steel Treating meeting at Stevens Hotel.

29-Oct. 4—**Pittsburgh, Pa.** National Safety Council Annual Safety Congress.

OCTOBER

2-12—**Paris, France.** Automobile Salon.

6-11—**Washington, D. C.** Sixth International Road Congress.

6-11—**Washington, D. C.** American Roadbuilders' Association Convention.

8- 9—**Detroit, Mich.** Society of Automotive Engineers production meeting at Book-Cadillac Hotel.

22-24—**Pittsburgh, Pa.** Society of Automotive Engineers' transportation meeting.

16-25—**London, England.** Olympia Motor Show.

NOVEMBER

6-16—**Berlin, Germany.** International Automobile Show.

8-15—**Chicago, Ill.** Automobile Salon at Drake Hotel.

MERCHANDISING ACCESSORIES EQUIPMENT

WHOLESALE

DISTRIBUTION SHOP EQUIPMENT REPLACEMENTS

National Carbon Announces A New Eveready Prestone

AFTER years of cooling system research in both the laboratory and in actual field service, the National Carbon Company, Inc., has just announced a New Eveready Prestone, which, it is claimed, will overcome many of the handicaps that cooling system operating conditions impose upon anti-freezes in general.

The New Eveready Prestone is green in color so it can be readily identified and a green tag is attached to every can of the new product.

The manufacturer claims that there will be less rust formed in the cooling system with the new product than with ordinary water. This will reduce the tendency of radiators to clog with rust. Furthermore, a solution, clear to start with, stays clear with practically no rust in suspension.

Leakage is not a problem with the New Eveready Prestone, but the manufacturer points out that any liquid will be lost from a cooling system that is not leak-tight; therefore, dealers should carefully inspect all cars before servicing anti-freeze and make the double profit which will be the result of capable cooling system service.

With the introduction of the new product is announced an important change in packing. A new can of ¾-gallon capacity has been added to the line so that hereafter Eveready Prestone can be secured in cans of the following capacities: ½ gallon, ¾ gallon, 1 gallon and 1½ gallon.

The reason for adding the ¾-gallon can is so that dealers can more accurately give their customers the correct amount of Eveready Prestone without the need of splitting cans. As an example, if 1¼ gallons of Eveready Prestone were required, the correct quantity could be supplied with a ½-gallon can and a ¾-gallon can, and the total charge to the car owner would be but $6.25. Under the old packing arrangement it would have been necessary to sell the car owner 1½ gallons at a cost of $7.50.

The company further announces that the new Eveready Prestone in the new convenient size packing can be offered with no change in price. The extra charge made in the past for Eveready Prestone packing in ½-gallon cans has been removed and all Eveready Prestone will now sell at the same price per gallon regardless of the size of the can. This will enable each dealer to order the assortment of cans necessary to take care of his trade without splitting cans.

The announcement of the new Eveready Prestone emphasizes the fact that the new product is the economical anti-freeze and its manufacturers point out:

"The cost of anti-freeze protection cannot be measured by price per gallon or cost of initial filling; the number of gallons required for complete protection as well as the lasting qualities of protection being the real considerations.

"The most accurate basis of comparison of cost is the total cost of protection per car for a whole anti-freeze season. The first expenditure for protection that must be renewed is, of course, only a part of the winter's anti-freeze cost. It is the total money expended by the car owner for an entire winter's protection that really determine the economical merits of an anti-freeze."

A special Eveready Prestone Hydrometer is necessary to accurately test Eveready Prestone solutions and, for this purpose, the National Carbon Company tester is recommended, since it is expressly designed for Eveready Prestone and its accuracy is guaranteed. The new Eveready Prestone does not require a new tester and all National Carbon Company testers at present on the market are suitable for use with the new product.

Editor's Column

EXPERIENCE shows that cutting prices for the purpose of taking business away from some one else has disastrous results. First, it means doing business at no profit and perhaps at an actual loss. Second, it means a smaller total volume of business than is the case where there is no price cutting. Third, it tends to keep prices up to a point higher than they would remain without price cutting. Fourth, it destroys confidence in the business.

It is obvious that price cutting destroys profit and that eventually the chronic price cutter must go out of business. None of our oldest business establishments or our most successful business concerns are, or have been chronic price cutters. Price cutters do not last.

Price cutting reduces the total volume of business done because so much attention is given to taking business away from competitors that not enough can be given to creating new business. Where price cutting is rampant in an industry or a community, the time comes when a relatively small volume of business is being done.

Price cutting keeps up prices because it keeps up costs. There is neither the volume nor the attention given to economies in manufacturing and distribution that are necessary to keep costs down and to reduce them to the point where all prices can be brought down. People usually obtain the best value for their money when buying products where prices are maintained and where quantity production and economies introduced all along the line keep costs at the minimum.

Manufacturers and jobbers who maintain their prices grow and prosper because they retain the confidence of the public. Price cutting anywhere along the line destroys this confidence, increases the cost of selling and lowers sales volume. This is one of the important reasons why price cutting should be avoided. A full realization of the evils of price cutting would do away with this archaic practice by all business men.

COMPARISON of methods used by merchants to attract business in 1921 with those now in vogue, according to H. J. Kenner of the Better Business Bureau of New York, shows that business ethics have undergone a surprising improvement in that time.

The stress laid upon business ethics and fair trade practice in recent years, he believes, has been responsible for a large measure of the improvement.

"A recession in business always brings with it the temptation to resort to questionable practices in order to keep up with sales," Mr. Kenner continued. "This year there has been little of the misleading advertising and unethical sales methods which marked the depression eight years ago."

TRUCK REPLACEMENTS GAINING IN LINCOLN

Lincoln Neb., July 16.—Local automotive jobbers, including the Henkle & Joyce Hardware Company, 8th and P Streets; H. E. Sidles Company, 1228 P St.; F. D. Wilson Sales Company, 1530 N St.; Hagstrom Auto Parts Company, 230 South 16th St., and L. J. Messer Parts Company, 1939-41-43 O St., report an unusually active movement of truck replacement parts, rings, pistons and lighter shop equipment to dealers in Kansas and Nebraska.

Most of the replacement parts are for Ford and Chevrolet trucks, while the shop equipment is going mostly to the small town garages and dealers who handle the Ford and Chevrolet lines. The reason given for this pick-up in business is the use of trucks in handling the wheat which is now being marketed. Apparently more trucking of grain is being done this year than ever before in Nebraska and northern Kansas, judging from the proportional increase in the business of Lincoln jobbers.

DEFIANCE FIELD STAFF TO HOLD OUTING JULY 21

Toledo, O., July 16.—Field representatives of Defiance Spark Plugs, Inc., will hold their midyear meeting in Toledo the week of July 21. L. L. Siegfried, sales manager, in announcing the meeting, said sales of the company to June 30 exceeded those for the corresponding period of 1929 by 30.2 per cent.

AMERICAN BOSCH ADDS NEW JOBBERS, SERVICE STATIONS

NEW YORK, July 16.—The American Bosch Magneto Corporation announces the following automotive appointments from July 1 to July 12 inclusive:

Service stations: Hamilton Electric and Battery Shop, Port Alberni, B. C.; D & B Battery and Electric Station, 117 S. Lincoln St., Port Angeles, Wash.; Edward Lawrence, Dixon, Cal.; Ward's Motor and Electric Service, 4th and Locust Streets, North Platte, Neb.; Porter Motor Company, Quinter, Kan.; Harries Garage, Wakeeney Kan.; C. H. Frye, Atwood, Kan.; Hutcherson Battery and Electric Station, Norton, Kan.

Replacement parts, wholesalers: Zempter's Auto Supply Company, Inc., 204 Ryan St., Lake Charles, La.; The Lewis Motor Mart Company, 27 East 2d St., Dayton, O.; Standard Electrical Company, 734 Pleasant St., New Bedford, Mass.

Bosch motor car radio service stations: Reliable Magneto Repair Company, 20 Prince St., Paterson, N. J.; Richard G. Pfeiffer, 16 Park St., Orange, N. J.; Passaic Battery & Electric Company, 586 Main Ave., Passaic, N. J.; C. W. Grammes Radio & Electrical Service, 315 North Franklin St., Allentown, Pa.; Auto Electric & Radiator Company, Inc., 608 South St., New Orleans; Electric Magneto Company, 73 South 13th St., Minneapolis; Central Auto Electric Company, 20 Northeast 4th St., Minneapolis; Gruber Auto Electric Company, 263 West 4th St., St. Paul; Malme Electric & Radio Shop, 17 South 5th St., Moorhead, Minn.; Dakota Motor Supply Company, 20 South 4th St., Grand Forks, N. D.; Lou Roberson Auto Parts, 406 Main St., Ames, Ia.; Boone Storage Battery Company, 816 Keeler St., Boone, Ia.; Jefferson Storage Battery Company, Jefferson, Ia.; Emeis Electrical Service, 216 Iowa St., Davenport, Ia.; Meythaler Electric Company, 1504 10th St., Monroe, Wis.; Orr Brake Service Station, 971 North High St., Columbus; W. E. Chase Company, 114 East Alder St., Walla Walla, Wash.; R. A. Twiss, 506 East 2d St., The Dalles, Ore.; Modern Utilities Company, 611 Capitol Way, Olympia, Wash.; John Holt, Santa Cruz, Cal.; Lamb Auto Electric Company, 1200 Anacapa St., Santa Barbara, Cal.; Radiola Shop, 70 West 4th St., Salt Lake City; Motor Equipment Company, 609 South State St., Salt Lake City.

Bosch motor car radio wholesalers: Cain Radio Company, 306 Park St., Jacksonville; Inter-Mountain Electric Company, 43 East 4th St., Salt Lake City.

BRAKE DEFECTS FOUND IN 21% OF CARS TESTED

Tacoma, Wash., July 16.—Twenty-one per cent. of 3,000 automobiles tested here in one day of a week's brake testing campaign, conducted by the state highway patrol, had defective brake equipment or were handled by persons who could not operate brakes, according to William Cole, chief of the highway patrol and member of the state automotive equipment commission. Possibly 10 per cent. of the 3,000 were dangerous because of poor brakes, Cole said. The 21 per cent. included mental and mechanical defects. Some drivers became excited and were unable to operate brakes that mechanically were in good condition. Only 6 per cent. of the headlights tested were defective. The campaign was conducted with the cooperation of Tacoma automotive concerns and the Tacoma Chamber of Commerce. It is held each year. Drivers with defective equipment are given warning cards and arrests are made if the equipment is not repaired.

CONSOLIDATED BATTERY TRIES OUT NEW PLAN

Rochester, N. Y., July 16.—The Consolidated Battery Company, manufacturer of automotive storage batteries, has announced a novel merchandising plan for the distribution of its product in Rochester and Monroe county. The company has arranged with the Shell Oil Company to market its product in the gasoline filling and super service stations of the latter concern throughout the county. The plan, an experiment, will be extended to other sections of the country if successful.

Brosch Suggests Right Attitude Toward Price

DISCUSSING the right attitude that should be taken toward price, George Brosch, manager of the automotive merchandising and marketing division of the Business Training Corporation, presents another of his short talks on "Successful Service Salesmanship" as follows:—

A motorist walked into a retail accessory store in Buffalo one day last summer and inquired about clocks.

"Yes, sir," replied the salesman and, turning to the shelf back of him, took down a cartoon, opened it and laid a handsome looking clock on the counter.

"Now, if you want a real clock," he began, "and don't mind paying out some money for it, there's a wonderful clock for $9.75." He went on to call attention to its attractive appearance, its strong construction, the name of its maker, the fact that its hands were treated so that they glowed visibly by night, its eight-day movement and its guarantee. He really made a very creditable sales talk. But, unfortunately, he had got off the wrong foot. From the very start he had created the impression that he was showing a high-priced clock. All the time the salesman was talking the customer was thinking of the price. He told the salesman that he agreed that it was a nice article, but that he had in mind getting something lower priced.

"Well, we have cheaper clocks," said the salesman. "Here's one for $6.50, and here's another for $5. Then we've got 'em as cheap as $3.65."

The customer looked at the less expensive clocks, hesitated a while, and finally walked out without buying. Why? Simply, because the clock he really wanted was the first one the salesman showed him, but the salesman's attitude on the price had convinced him that it was too high. It would have been easy to start this sale on the right road. Instead of beginning by apologizing for the price, the salesman should have started by talking about the clock and the benefits it would give to the customer. He had no excuse whatever for stating the price, at the very beginning, in a way that was likely to scare off the customer. He killed the sale by showing that he regarded the clock as a costly luxury.

Time and time again, in all kinds of retail automotive establishments all over the country, salesmen have been observed quoting the price of products and jobs in a way that practically compelled the customer to object to it. "We can do that job for $64," said a service salesman in Winnipeg. "It's a lot of money, but you'll get a good job." Of course, the customer started objecting to the cost. "You'll have to have a new axle shaft, and that runs into money," said another salesman in Dallas; and without delay an argument about the price was started.

These typical illustrations are enough to emphasize the importance of taking the right attitude toward the price of the jobs or products you sell. **First,** fix it firmly in your mind that the things you sell are priced fairly and reasonably. Unless the idea is planted deep in your mind, you cannot sell successfully. The salesman who has doubts or misgivings about his price is almost certain to infect his customer with those same doubts and misgivings. The first step in handling the price is to believe in it and to let your attitude show your belief. **Second,** remember that price is only an incidental matter in any sale. The customer does not come to you to buy price. He comes to you because he wants some definite benefit, for which he expects to pay a fair price. If your attitude indicates the fairness of the price, the average customer will tend to accept it without question.

Most difficulties on the subject of price are created by the salesman, not by the customer.

Make the Value Outweigh the Cost

In any selling transaction, the essential task of the salesman is to build up the customer's appreciation of the **value** of the service job or the product, so that it will outweigh the cost. The customer will buy **only when he wants the job or the article** more than he wants the money he must exchange for it.

Thus the proper attitude for the salesman to take, throughout the interview, is that the benefits the customer will receive, and the lasting satisfaction those benefits will give him, are the only points that really matter. In the future, they are all that he will remember. If the price is fair, he will soon forget what he paid; but he will not forget the satisfaction he got from his purchase. The average man will have difficulty in remembering the exact price he paid to have his fenders straightened and refinished a year ago; but he can tell you in a flash whether or not he got a good job.

The simplest and easiest way to prevent price difficulties, therefore, is to throw the emphasis on value by high-lighting and stressing the benefits and treating the price as a matter of secondary importance. Don't drag the price into the foreground; let it stay where it belongs, in the background. If the price is high, emphasizing it will not help you to make the sale. If it is low, too much emphasis on it will merely make the customer doubt the quality of the product or the job.

There is a good deal of common sense in this comment. Many a salesman does seem to be scouting for price difficulties, looking for them to appear at any moment. Naturally, he finds what he is looking for.

Wholesale Brevities

Seattle, Wash., July 16.—R. O. Bosselman Company, Seattle parts jobber, has been appointed distributor for Liquid Gold Lubricators. M. E. Arkills is general manager of the Company whose factory is in Seattle.

Lexington, Ky., July 16.—M. O. Cox is manager of the new store recently opened by O. W. Murphy Company. The new branch is located in Harlan, Ky.

Lexington, Ky., July 16.—T. O. Epperson is now representing O. W. Murphy Company. He will travel north out of Lexington.

Baltimore, July 16.—The piston business of R. W. Norris & Sons increased so that it had to replace the old Relio No. 3 grinder with a new eighty-eight full automatic Van Norman. The first week the new machine was in operation the concern ground 374 pistons.

Dubuque, Ia., July 16.—Charles Hogan, formerly with H. A. George Company, Epworth, is now traveling for the Heeb Company of this city.

Richmond, Ind., July 16.—A new Van Norman piston grinder has been added in the shop of the Rodefeld Company.

Grand Rapids, July 16.—Elmer Tasche, buyer of Sherwood Hall Company, Ltd., reports the organization of an airplane club among the air minded youth of his city.

SUPERIOR DISTRIBUTORS LEASE LARGER QUARTERS

Newark, N. J., July 16.—The Superior Distributors, Inc., automotive jobber, has leased a new building at 215 Central Ave., having previously located at 38 Branford Place at Halsey Street. The concern was established in 1902, has a store and warehouse in New York city and was previously known as the Superior Lamp and Automotive Equipment Company. The change of name was made in 1922, to cover better the activities of the company, as it now specializes as direct factory distributor of automotive equipment to cover every branch of the industry.

BENDIX-WESTINGHOUSE APPOINTS F. L. HALL

Pittsburgh, Pa., July 16.—The Bendix-Westinghouse organization has announced the appointment of F. L. Hall as their representative in the Pittsburgh district. Hall has for some time been associated with the automotive division of the Westinghouse Airbrake Company.

BOHN ALUMINUM & BRASS REPORTS $1.95 A SHARE

New York, July 16.—The Bohn Aluminum and Brass Corporation reports for the six months ended June 30, 1930, net profit of $688,766, after charges and Federal taxes, equivalent to $1.95 a share on 352,418 no-par shares of stock. This compares with $1,781,579, or $5.08 a share on 350,831 shares in the first half of 1929.

The net profit for the quarter ended June 30 amounted to $293,380, after above charges, equal to 83 cents a share on 352,418 shares, comparing with $395,386, or $1.12 a share on 352,418 shares in preceding quarter, and $761,826, or $2.17 a share on 350,831 shares in the second quarter of the previous year.

Sales for the first half of 1930 totaled $9,579,208, comparing with $21,071,880 in the first half of 1929, a decrease of $11,492,672, or 54.5 per cent.

OTHER FINANCIAL NEWS

CAMPBELL, WYATT & CANNON

Net profit of the Campbell, Wyant & Cannon Foundry Company for six months ended June 30, 1930, was approximately $574,000, after depreciation, interests, Federal taxes, etc., equivalent to $1.65 a share on 348,000 no-par shares of stock. This compares with $1,061,828, or $3.05 a share in the first half of 1929.

STINSON AIRCRAFT

Stinson Aircraft Corporation, a subsidiary of the Cord Corporation, built and sold more airplanes in the first six months of 1930 than during the entire year of 1929, E. L. Cord, president of the Cord Corporation, announced today.

A total of 130 planes were built and sold in this period as compared with 120 planes for the entire year of 1929. Stinson's 1929 sales were the largest of any American aircraft manufacturer building cabin planes exclusively, and the 1930 figures set new records for the aviation industry.

JOHN R. EVANS

The John R. Evans Leather Company reports that its earnings are now 3 per cent. over the same period for last year and that it will have a turnover of nearly $8,000,000 this year. J. S. C. Harvey, a member of the firm, declared "We have more than 550 hands working at the present time and are about to employ more for temporary work during the summer." The Keystone Leather Company is still working at normal capacity with 500 hands with a turnover of more than $6,000,000.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

OIL EXECUTIVES SAIL FOR EUROPE TO STUDY NEW GASOLINE PROCESS

New York, July 16.—A group of twelve oil executives, headed by Frank A. Howard, president of Standard-I. G. Company, are sailing for Germany on the Bremen to make an intensive study of the work on the hydrogenation process being done by the I. G. Farbenindustrie A. G. there. They will be abroad for about a month.

The party consists of Dr. H. M. Weir, Atlantic Refining Company; E. W. Isom, vice-president, Sinclair Refining Company; R. A. Halloran, Standard Oil Company of California; Dr. R. E. Wilson, development head of Standard Oil Company (Indiana), and William Plummer of the same company; Dr. J. B. Rather, Standard Oil Company of New York; S. J. Dickey, consulting engineer of General Petroleum Company; J. Stewart Harrison, vice-president, Standard Oil Company (Ohio); R. J. Dearborn and Michael Halpern of the Texas Company; A. G. Page, Union Oil Company of California, and Mr. Howard. Representatives of several other companies interested will join the party in Germany.

The group represents the majority of the companies announced by Standard Oil Company of New Jersey as participating with them in Hydro Patents Company, the new organization formed to take over rights to the hydrogenation process in the United States. Their observations abroad will be in accordance with plans to study the operation of the process both in Germany and in the Standard's new hydrogenating plant soon to be started at its Bayway, N. J., refinery. Upon the results of this study will largely depend the extent to which the individual companies forming Hydro Patents will undertake the future commercial application of the process.

CURRENT PRICES OF PASSENGER CAR MODELS

AUBURN—6-85. 120 W. B.

Sport Sedan	995	Sedan	1,095
Cabriolet	1,095		

AUBURN—8-95. 125 W. B.

Sport Sedan	1,195	Cabriolet	1,295
Sedan	1,295	Phaeton Sedan	1,395

AUBURN—8-125. 130 W. B.

Sport Sedan	1,495	Cabriolet	1,595
Sedan	1,595	Phaeton Sedan	1,695

AUSTIN—4-cyl. 75 W. B.

2 Coupe	445	2 Roadster	445

BLACKHAWK—6 or 8 cyl. 127½ W. B.

5 Coupe	1,995	4 Speedster	2,535
5 Sedan	2,395	7 Cab. Coupe	2,595
2 Coupe	2,395	4 Speed. (T.C.)	2,735
2 Speedster	2,535		

BUICK—"40" 6-cyl. 118 W. B.

2 Bus. Coupe	1,260	4 Spt. Roadster	1,310
5 2-dr. Sedan	1,270	5 Phaeton	1,318
4 Special Coupe	1,300	5 4-dr. Sedan	1,330

BUICK—"50." 6-cyl. 124 W. B.

4 Coupe	1,510	5 4-dr. Sedan	1,540

BUICK—"58." 6-cyl. 132 W. B.

4 Roadster	1,585	5 4-dr. Sedan	1,760
7 Phaeton	1,595	7 4-dr. Sedan	1,910
4 De L. Coupe	1,695	7 Limousine	2,070
5 Coupe	1,740		

CADILLAC—8-cyl. 140 W. B.
Fisher Custom

2 Coupe	3,296	5 Sedan	3,695
5 Town Sedan	3,495	7 Sedan	3,795
2 Con. Coupe	3,595	7 Imp. Sedan	3,995
5 Coupe	3,595		

CADILLAC—8-cyl. 140 W. B.
Fleetwood Custom

2 Roadster	3,450	5 Sedanette	4,595
5 Sedan	4,195	7 Imperial	4,595
5 Sedan Cabrio	4,245	5 A. W. Phaeton	4,700
7 Sedan	4,295	Town Cabriolet	4,995
5 Imperial	4,395	Town Cabriolet	5,145
5 Imp. Cabrio.	4,445	Lim. Brougham	5,145
5 Sedanette Cabriolet	4,500		

CADILLAC—V-16. 148 W. B.
Fleetwood Custom

2 Roadster	5,350	Town Cabriolet (Leather)	7,150
2 Coupe	5,800		
2 Con. Coupe	5,900	Lim. Brougham	7,150
5 Club Sedan	5,950	7 Sedan	7,225
5 Sedan	5,950	5 Imperial	7,300
5 Sedan Cabrio.	6,125	5 Imp. Cabriolet	7,350
5 Phaeton	6,150	A. W. Phaeton	7,350
7 Sedan	6,225	7 Imp. Sedan	7,525
5 Imperial	6,300	Town Cabriolet (Opera seats)	8,750
5 Imp. Cabrio.	6,350		
7 Imp. Sedan	6,525	Town Cabriolet (quarter windows)	8,750
A. W. Phaeton	6,650		
2 Coupe	6,650		
2 Con. Coupe	6,900	Town Cabriolet (leather quarters)	8,750
5 Club Sedan	6,950		
5 Sedan	6,950		
Town Cabriolet	7,000	Lim. Brougham	8,750
5 Sedan Cabrio.	7,125	Town Brougham	9,200
Town Cabriolet	7,150	Town Brougham	9,700

CHEVROLET—6-cyl. 107 W. B.

Roadster	495	Coupe	565
Phaeton	495	Sport Coupe	625
Sport Roadster	525	Club Sedan	625
Coach	565	Sedan	675
		Special Sedan	725

CHRYSLER—"6." 6-cyl.

Business Coupe	795	Phaeton	835
Royal Coupe (R. S.)	835	4-dr. Sedan	845
		Con. Coupe (R. S.)	925
Roadster	835		

CHRYSLER—66. 6-cyl.

2 Business Coupe	995	Roadster (RS)	1,025
5 Brougham	995	Royal Coupe (RS)	1,075
5 Phaeton	1,025	Royal Sedan	1,095

CHRYSLER—70. 6-cyl.

5 Phaeton	1,295	Royal Coupe (RS)	1,395
2-4 R'dster (RS)	1,345	Royal Sedan	1,445
2 B'sin's Coupe	1,345	Con. Coupe (RS)	1,545
5 Brougham	1,345		

CHRYSLER—77. 6-cyl.

Business Coupe	1,395	Royal Sedan	1,495
Roadster (RS)	1,665	4 Crown Coupe	1,575
Town Sedan	1,445	Crown Sedan	1,595
Royal Coupe (R. S.)	1,495	5 Phaeton (TC) Con. Coupe (RS)	1,795 1,825

CHRYSLER—Imperial. 6 cyl.

2-4 R'ster (RS)	2,995	7 Phaeton	3,195
2 Stan. Coupe	3,095	7 Sedan	3,195
5 Sedan	3,075	7 Sedan Lim.	3,575
2-4 Con.C'p (RS)	3,095	4 Spt. Phaeton	3,955
5 Town Sedan	3,075		

CORD—8-cyl. 137½ W. B.

Sedan	3,095	Cabriolet	3,295
Brougham	3,095	Phaeton Sedan	3,295

DE SOTO—6-cyl.

Roadster	810	Coupe (R. S.)	860
Bus. Coupe	830	4-dr. Sedan	875
Phaeton	830	Convertible Coupe	945

DE SOTO—8-cyl.

Business Coupe	965	De Luxe Coupe	1,025
Roadster	985	Touring	1,035
Standard Sedan	995	De Luxe Sedan	1,065

DODGE—Six.

Business Coupe	835	4-dr. Sedan	865
Stn. Coupe (RS)	855	Phaeton	875
Roadster	855	Cn. Coupe (RS)	935

DODGE—Eight.

Roadster (RS)	1,095	Stan. Cp. (RS)	1,125
Cn. Coupe (RS)	1,195	Sedan	1,145

DURANT—"40." 4-cyl. 107 W. B.

Coupe	595	4-dr. Sedan	695
Spt. Roadr (RS)	595		

DURANT—"60." 6-cyl. 109 W. B.

Spt. Roadr (RS)	685	4-dr. Sedan	750
Coupe	685		

DURANT—"63." 6-cyl. 112 W. B.
(Three Speed Transmission)

Coupe	845	Phaeton	925
4-dr. Sedan	895		

DURANT—"66" 6-cyl. 112 W. B.
(Four Speed Transmission)

Coupe (R. S.)	945	Phaeton	1,025
4-dr. Sedan	995		

DURANT—"70." 6-cyl. 119 W. B.
(Four Speed Transmission)

Coupe (R. S.)	1,195	4-dr. Sedan	1,285

DURANT—6-14. 6-cyl.
(Three Speed Transmission)

4-dr. Coach	725	*De L. Roadster	935
Business Coupe	785	*DeL. Coupe	945
Stan. Coupe (RS)	815	*DeL. Phaeton	960
Stan. Sedan	845	*DeL. Sedan	975

*Six wire wheels.

DURANT—6-17. 6-cyl.
(Four Speed Transmission)

Business Coupe	995	*DeL. Coupe	1,155
Stan. Coupe (R. S.)	1,025	*DeL. Roadster	1,155
Stan. Sedan	1,065	*DeL. Phaeton	1,185
		*DeL. Sedan	1,195

*Six wire wheels.

ELCAR—75-A. 6-cyl. 117 W. B.

2 Roadster	995	4 Con. Landau	1,265
4 Roadster	1,245	5 Club Sedan	1,295
2 Coupe	1,245	5 Sedan	1,295
4 Coupe	1,265		

ELCAR—95. 8-cyl. 123 W. B.

2 Roadster	1,395	4 Con. Landau	1,565
4 Roadster	1,533	5 Club Sedan	1,595
2 Coupe	1,545	5 Sedan	1,595
4 Coupe	1,565		

ELCAR—96. 8-cyl. 123 W. B.

4 Roadster	1,635	5 Club Sedan	1,695
2 Coupe	1,645	4 Fleetwing Sed.	1,695
4 Con. Landau	1,665	5 Princess Sed.	1,695
4 Coupe	1,665		

ELCAR—130. 8-cyl. 130 W. B.

2 Coupe	1,945	4 Con. Landau	1,995
5 Sedan	1,995	4 Roadster	1,995
5 Club Sedan	1,995	5 Touring	1,995
4 Coupe	1,995	7 Sedan	2,120

ELCAR—120. 8-cyl. 127 W. B.

5 Touring	2,465	7 Sedan	2,645
5 Sedan	2,465		

ELCAR—140. 8-cyl. 135 W. B.

4 Roadster	2,645	5 Sedan	2,645
4 Con. Landau	2,645	5 Con. Sedan	2,750

ESSEX—6-cyl. 113 W. B.

2 Coupe	735	Brougham	895
Coupe (RS)	750	Phaeton	925
Coach	795	Roadster	925
Stan. Sedan	825	Sun Sedan	995
Touring Sedan	875		

FORD—Model A. 4-cyl. 103½ W. B.

Pickup Op. Cab.	425	Standard Sedan (3 win.)	600
Roadster	435		
Phaeton	440	De L. Phaeton	625
Pickup Cl. Cab.	455	Cabriolet	625
Tudor Sedan	495	4-dr. De L. Sedan (2 win.)	640
Coupe	495		
Sport Coupe	525	Town Sedan	660
De Luxe Coupe	545	Town Car	1,200

FRANKLIN—Series 145. 125 W. B.

Sedan	2395	Vic. Brougham	2,695
Coupe	2,610	Con. Coupe	2,710
De Luxe Sedan	2,670	Town Sedan	2,725
Club Sedan	2,675	Pursuit	2,750

FRANKLIN—Series 147. 132 W. B.

Salon Special	2,715	Limousine	3,070
7 Sedan	2,875	Sedan Lim.	3,125
Roadster	2,885	Speedster (5 wire wheels)	3,425
5 Pirate Tour.	2,885		
7 Pirate Phaet.	2,970		

FRANKLIN—Custom. 132 W. B.

†Dietrich Con. Speedster	3,725	†Holbrook-Avion Sedan	6,300
†Deuville Sed.	5,100	†Locke Con. Sed.	7,600
Dietrich Town Car (wood wheels)	5,200	†Dietrich Pirate Coupe	8,300
Derham Cabriol.	6,100		

†Wire wheels.

GARDNER—Model 150. 130 W. B.

Sport Sedan	1,945	Coupe	1,995
Brougham	1,995	Sedan	2,045
Roadster	1,995		

GARDNER—Model 140. 125 W. B.

Sport Sedan	1,595	Brougham	1,645
Coupe	1,645	Sedan	1,695
Roadster	1,648		

GARDNER—Model 136. 122 W. B.

Sport Sedan	1,195	Brougham	1,245
Coupe	1,245	Roadster	1,245

GRAHAM—6-cyl. Standard. 115 W. B.

2 Coupe	845	2 De L. Coupe	
5 Town Sedan	845	(R. S.)	945
2 Coupe (R.S.)	895	5 De L. Sedan	995
2 De L. Coupe	895	2 Roadster (R.S.)	995
5 Univ. Sedan	895	5 Phaeton	1,015
		2 Cabriolet (RS)	1,065

GRAHAM—6-cyl. Special. 115 W. B.

2 Coupe	1,195	5 Sedan	1,225
2 Coupe (R.S.)	1,225		

GRAHAM—8-cyl. Standard. 122 W. B.

2 Coupe (R.S.)	1,445	7 Sedan (134 W. B.)	1,745
5 Sedan	1,445		
		5 Conv. Sedan	1,985

GRAHAM—8-cyl. Special. 122 W. B.

2 Coupe (R. S.)	1,595	7 Sedan (134 W. B.)	1,844
5 Sedan	1,595		
		5 Conv. Sedan	2,085

GRAHAM—8-cyl. 127 W. B.

5 Sedan	2,025	2 Roadster (RS)	2,225
4 Coupe	2,025	2 Cabriolet (RS)	2,245
2 Coupe (R.S.)	2,225	5 Phaeton	2,295

GRAHAM—8-cyl. 137 W. B.

7 Phaeton	2,295	7 LeBaron Limo. Sedan	3,940
5 Sedan	2,455		
5 Town Sedan	2,455	7 LeB. Twn Car	4,255
7 Sedan	2,525	7 LeBar. Limo.	4,505
7 Limousine	2,595		

HUDSON—8-cyl. 119 W. B.

Coach	1,050	Roadster	1,200
Coupe	1,100	5 Phaeton	1,300
Stan. Sedan	1,150	Sun Sedan	1,335

HUDSON—8-cyl. 126 W. B.

Tour. Sedan	1,250	7 Phaeton	1,500
Brougham	1,295	7 Sedan	1,650

HUPMOBILE—Century 6. 6-cyl.

Com. Coupe	1,145	Cabriolet	1,250
4-dr. Sedan	1,195	5 Phaeton	1,250
Coupe (R. S.)	1,195	Roadster	1,275

HUPMOBILE—Century 8. 8-cyl.

Com. Coupe	1,345	Con. Cabriolet	1,450
Coupe (R. S.)	1,395	Phaeton	1,450
Sedan	1,395	Roadster	1,475

HUPMOBILE—Series C. Standard. 121 W.B.

5 4-dr. Sedan	1,695	7 Phaeton (5 disc	
2 Coupe (R.S.)	1,695	wheels)	1,785
5 Vic. Coupe	1,715	5 Town Sedan (5	
2 Cabriolet	1,770	disc wheels)	1,805

HUPMOBILE—Series H. Standard Models.

5 4-dr Sedan	2,080	7 Phaeton (5 disc	
2 Coupe (R.S.)	2,080	wheels)	2,190
5 Vic. Coupe	2,100	5 Town Sedan (5	
2 Cabriolet (RS)	2,155	disc wheels)	2,190

HUPMOBILE—Series U.

7 Sedan	2,495	7 Limousine	2,645

JORDAN—Standard 80. 120 W. B.

5 Sedan	1,795	Coupe	1,795

JORDAN—Great 90. 8-cyl. 125 W. B.

5 Sedan	2,295	Sport Sedan	2,595
Coupe (Standard)	2,295	Playboy Roadster	2,595
Coupe (convertible)	2,495	Speedboy Sport Phaeton	2,795

JORDAN—Great 90. 8-cyl. 131 W. B.

7 Touring	2,495	7 Sedan Limousine	2,695
7 Sedan	2,595		

LA SALLE—8-cyl. 134 W. B.
Fisher Custom

2 Coupe	2,490	5 Town Sedan	2,590
5 Sedan	2,565	7 Sedan	2,775
2 Con. Coupe	2,590	7 Imp. Sedan	2,925
5 Coupe	2,590		

LA SALLE—8-cyl. Fleetwood. 134 W. B.

5 Phaeton	2,385	5 Sedan Cabrio.	3,725
2 Roadster	2,450	5 Sedanette	3,825
7 Touring	2,525	5 Phaeton	3,995

LINCOLN—8-cyl. 136 W. B.

7 Spt. Touring	4,200	Town Sedan (2 windows)	4,400
4 Spt. Phaeton	4,200		
4 Spt. Phaeton (tonneau cowl and windshield)	4,400	Town Sedan (3 windows)	4,400
2 Club Roadstr	4,400	5 Sedan	4,500
5 Coupe	4,400	7 Sedan	4,700
		7 Limousine	4,900

LINCOLN—8-cyl. Custom. 136 W. B.

2 Coupe (Judkins)	5,000	7 Cabriolet (N. C. A. W.) by Le Baron	6,900
4 Coupe Sedan (Le Baron)	5,300	7 Brougham (A. W.) Brunn	7,000
Berline (2 win.) (Judkins)	5,000	7 Cabriolet (S. C. A. W.) Le Baron	7,100
Berline (3 win.) (Judkins)	5,000		
7 Limousine (Willoughby)	5,900	7 Cabriolet (A.W. non or semi-col.) Brunn	7,200
4 Con. Coupe (Dietrich)	6,200	7 Cabriolet (fully collapsible) by Le Baron	7,200
4 Con. Sedan (Dietrich)	6,600		

MARMON—Big Eight

5 Sedan	2,720	7 Sedan	2,920
5 4-dr. Brough.	2,770	7 Sedan Lim.	3,120
5 4-dr. Clb Sed.	2,770	7 Touring	3,170
2 Coupe (R.S.)	2,850		

MARMON—70. 8-cyl.

2 Coupe (R.S.)	1,995	5 4-dr. Club Sed.	2,070
5 Sedan	2,020	2 Convertible Coupe (R.S.)	2,120
5 Phaeton	2,020		
5 4-dr. Brough.	2,070		

MARMON—69. 8-cyl.

2 Coupe (R.S.)	1,495	5 Phaeton	1,610
5 Sedan	1,520	2 Convertible Coupe (R.S.)	1,610
5 4-dr. Brough.	1,565		
5 4-dr. Club Sed	1,565		

MARMON—Roosevelt. 8-cyl.

2 Coupe (R.S.)	950	2 Convertible Coupe (R.S.)	995
5 Sedan	935		
4 Vic. Coupe	995		

De luxe equipment can be had on the Marmon at a moderate additional cost.

MARQUETTE—6-cyl. 114 W. B.

2 Bus. Coupe	990	Special Coupe (R.S.)	1,020
2-dr. Sedan	1,000	4-dr. Sedan	1,060
Roadster (RS)	1,020		
5 Phaeton	1,020		

NASH—Single Six. 114¼ W. B.

5 2-dr. Sedan	935	5 4-dr. Sedan	1,005
2 Coupe	940	4 Cabriolet	1,005
4 Roadster	975	5 De L. Sedan	1,095
4 Coupe (RS)	980	Folding Landau	1,155
5 Touring	995		

NASH—Twin Ignition Six. 118 W. B.

5 2-dr. Sedan	1,325	4 Coupe (RS)	1,395
2 Coupe	1,345	4 Victoria	1,410
4 Roadster	1,365	5 4-dr. Sedan	1,415
4 Cabriolet	1,385		

NASH—Twin Ignition Six. 128¼ W. B.

7 Touring	1,475	7 Sedan	1,745
5 Touring (Tonneau Cowl)	1,595	7 Limousine	1,920

NASH—Twin Ignition Eight. 124 W. B.

5 2-dr. Sedan	1,675	5 4-dr. Sedan	1,795

(Recent price changes in bold face)

NASH—Twin Ignition Eight. 133 W. B.

7 Touring	1,845	5 Victoria	2,045
2-4 Cabriolet	1,875	5 Ambassador	2,095
2 Coupe	1,915	7 Sedan	2,195
2-4 Coupe	1,975	7 Limousine	2,385
5 Touring (Tonneau Cowl)	1,975		

OAKLAND—8-cyl. 117 W. B.

Roadster	1,025	Sport Coupe	1,115
Coupe	1,045	4-dr. Sedan	1,145
2-dr. Sedan	1,065	Custon Sedan	1,195
Phaeton	1,075		

OLDSMOBILE—6-cyl. Standard. 113½ W.B.

2-dr. Sedan	895	4-dr. Sedan	995
Coupe	895	Con Roadster	995
Sport Coupe	965	Pat. Sedan	1,060
Phaeton	965		

OLDSMOBILE—6-cyl. Special. 113½ W. B.

2-dr. Sedan	970	4-dr. Sedan	1,070
Coupe	970	Con. Roadster	1,070
Sport Coupe	1,040	Pat. Sedan	1,135
Phaeton	1,040		

OLDSMOBILE—6-cyl. De Luxe. 113½ W.B.

2-dr. Sedan	1,025	4-dr. Sedan	1,125
Coupe	1,025	Con. Roadster	1,125
Sport Coupe	1,095	Pat. Sedan	1,190
Phaeton	1,095		

OLDSMOBILE—6-cyl. 113½ W. B.
(5 Wire Wheel Equipment)

2-dr. Sedan	950	4-dr. Sedan	1,050
Coupe	950	Con. Roadster	1,050
Sport Coupe	1,020	Pat. Sedan	1,115
Phaeton	1,020		

PACKARD—726. Standard 8. 127½ W. B.

5 Sedan	2,085		

PACKARD—733. Standard 8. 134½ W. B.

2 Runabout	2,025	5 Coupe	2,275
4 Phaeton	2,025	5 Club Sedan	2,275
7 Touring	2,125	4 Spt. Phaeton	2,325
2 Coupe	2,125	7 Sedan	2,385
2 Con. Coupe	2,150	7 Sedan Limou.	2,485

PACKARD—740. Custom 8. 140½ W. B.

4 Phaeton	3,190	5 Sedan	3,585
2-4 Roadster	3,190	5 Coupe	3,650
2-4 Coupe	3,295	5 Club Sedan	3,750
7 Touring	3,325	7 Sedan	3,785
2-4 Con. Coupe	3,350	7 Sedan Limous.	3,885
4 Spt. Phaeton	3,490		

PACKARD—745. De Luxe 8. 145½ W. B.

7 Touring	4,585	5 Sedan	4,985
4 Phaeton	4,585	5 Coupe	5,100
2-4 Roadster	4,585	5 Club Sedan	5,150
2-4 Coupe	4,785	7 Sedan	5,185
2-4 Con. Coupe	4,885	7 Sedan Limous.	5,350
4 Spt. Phaeton	4,885		

PACKARD—Speedster. 134 W. B.

4 Phaeton	5,200	4 Victoria	6,000
4 Runabout	5,200	5 Sedan	6,000

PACKARD—Individual Custom. 145½ W.B.

2 4-dr. Conv. Coupe (Derham)	6,334	6 Spt. Cabriolet (Brewster)	7,154
4 Conv. Victoria (Dietrich)	6,414	6 Spt. Limousine (Brewster)	7,159
4 Conv. Victoria (Waterhouse)	6,514	6 Spt. Sedan Limo. (Brewster)	7,334
4 Conv. Sedan (Dietrich)	6,694	7 Landaulet (Le Baron)	7,339
6 Cabriolet (Le Baron)	6,784	6 Spt. Landaulet (Brewster)	7,494
6 Sedan Limou. (Le Baron)	6,859	6 Spt. Cabriolet (Le Baron)	9,174
4 Conv. Sedan (Brewster)	6,904	7 Cabriolet (Rollston)	9,849
6 Sedan Limou. (Le Baron)	6,954	6 Cabriolet (Rollston)	9,984
7 Cabriolet (Le Baron)	6,954	7 Cabriolet (Rollston)	10,049
6 Landaulet (Le Baron)	7,889		

PEERLESS—6-cyl. "61." 116 W. B.

2 Roadster	995	4 Victoria	1,145
2 Coupe	1,095	5 Sedan	1,195

PEERLESS—Standard 8. 118 W. B.

5 Sedan	1,495	5 Brougham	1,545
2 Coupe (R.S.)	2,795	2 Cabriolet (RS)	1,595
5 Club Sedan	1,545		

PEERLESS—Custom 8. 138 W. B.

5 Sedan	2,795	5 Brougham	2,845
2 Coupe (R.S.)	2,705	7 Sedan	2,945
5 Club Sedan	2,845	7 Limousine	3,145

PEERLESS—Master 8. 125 W. B.

5 Sedan	1,995	5 Brougham	2,045
2 Coupe (R.S.)	1,995	2 Cabriolet	2,005
5 Club Sedan	2,045		

PIERCE-ARROW—Group A. 8-cyl. 144 W.B.

7 Sedan	4,485	En. Dr. Lim.	4,685

PIERCE-ARROW—Group B. 8-cyl. 134 W.B.

Roadster	3,125	Con. Coupe	3,350
Touring	3,125	4 Spt. Phaeton	3,425

PIERCE-ARROW—Group B. 8-cyl. 139 W.B.

Vic. Coupe	3,475	7 Sedan	3,625
5 Sedan	3,495	Club Berline	3,695
Club Sedan	3,495	En. Dr. Lim.	3,825

PIERCE-ARROW—Group C. 8-cyl. 132 W.B.

Club Brougham	2,695	5 Sedan	2,875
Coupe	2,865		

PLYMOUTH—4-cyl.

Standard Coupe	590	2-4 Coupe (R. S.)	625
2 4-dr. Roadster (R. S.)	610	5 4-dr. Sedan	625
5 Phaeton	625	Con. Coupe	695

PONTIAC—6-cyl. 110 W. B.

Coupe	745	4-dr. Sedan	825
Roadster	765	Sport Coupe	825
2-dr. Sedan	775	Custom Sedan	875
Phaeton	795		

REO—Model 15. 6-cyl. 116 W. B.

Business Coupe	1,175	Spt. Bus. Coupe	1,250
Phaeton	1,195	Spt. Phaeton	1,270
Coupe (R. S.)	1,195	Spt. Coupe (RS)	1,270
Stand. Sedan	1,295	Sport Sedan	1,370

REO—Model 20, Flying Cloud. 120 W. B.

Stand. Sedan	1,595	Sport Sedan	1,705
Stand. Coupe	1,595

CHRYSLER INCREASES ITS SHARE OF TOTAL BUSINESS

Detroit, July 16.—Comparative data on automobile registrations for the entire country for the first five months of this year show that actual sales by Chrysler Corporation for the month of May were 76.5 per cent. of what they were during the same month last year, as compared with 76.0 per cent. for the industry as a whole. Excluding Ford and Chevrolet, Chrysler's percentage of 76.5 for May compares with 55.3 per cent. for the balance of the industry.

Chrysler Corporation's sales for the first five months of this year, exclusive of cars in the lowest priced bracket, viz., Plymouth, Chevrolet and Ford, were the highest percentage of last year's sales of any of the large producers in the automobile industry.

During the first five months of this year, Chrysler Corporation also increased its percentage of the total automobile business. This year Chrysler's percentage of the total exclusive of Ford was 13.4 per cent. as against 12.7 per cent. during the first five months of 1929 and, as indicative of further improvement in this respect, the company's share of the total in May this year was increased to 15.5 per cent.

In the first five months this year registrations of Chrysler Motors products totaled 110,261 units, of which 25,376 were Plymouths, the balance of 84,885 being in the higher priced brackets and comparing with 118,795 for the same period last year of 71.5 per cent.

CALIFORNIA OIL OUTPUT CURB BEING EXTENDED

Los Angeles, July 16.—Following a meeting of the fact-finding committee working on curtailment of California oil production, W. E. Dunlap, chairman, stated that actual production was 608,000 barrels daily, against the pegged production figure of the operators' general committee of 596,000 barrels.

The slight average is due to approximately 12,000 barrels daily of production in the fields in group No. 1, taking in Los Angeles basin, which it has been impossible to bring under curtailment.

KEY TO ABBREVIATIONS USED IN THIS TABLE

GENERAL

*In addition to its regular line Oldsmobile also offers a de luxe line. De luxe equipment includes: Six wire wheels (with six tires and tubes), two wheels carried in front fender wells and securely locked in position, chromium-plated headlamps, four spring boots, folding trunk rack at rear and sheet metal fenders, etc., ducoed in color on those models on which ducoed sheet metal is more harmonious than is black enameled sheet metal. It is also a special line for 1930.

SPEEDOMETER

AC—AC Spark Plug Co., Flint, Mich.
NE—North East Appliance Corp., Rochester, N. Y.
Ste—Stewart-Warner Speedometer Corp., Chicago.
*Var—Various makes.

CLOCK

Borg—Borg Clock Co.
Jag—Jaeger Watch Co., New York city.
NH—New Haven, See Phi.
Phi—Phinney-Walker Co., New York city.
Ster—Sterling Clock Co., La Salle, Ill.
Tho—Seth Thomas Clock Co., New York, N. Y.
Wal—Waltham Watch Co., Waltham, Mass.
*Optional.

FUEL GAUGE

AC—AC Spark Plug Co., Flint, Mich.
K-S—King Seeley Corp., Ann Arbor, Mich.
Mot-M—Moto Meter Gauge and Equipment Corp., L. I. City, N. Y., and La Crosse, Wis.
Ster—Sterling Clock Co., La Salle, Ill.

LOCK

BS—Briggs-Stratton Co., Milwaukee.
Ele—Mitchell Specialty Co., Holmesburg, Pa.
DR—Delco-Remy Corp., Anderson, Ind.
Her—Hershey Mfg. Co., Chicago.
Joh—Johnson Automobile Lock Co., St. Louis, Mo.
NE—North East Appliance Corp., Rochester, N. Y.
Sha—Shaler Lock Co., Milwaukee, Wis.
Yal—Yale & Towne Mfg. Co., Stamford, Conn.
*Reo Model 15 uses Mitchell.

SPARK PLUG

AC—AC Spark Plug Co., Flint, Mich.
Cha—Champion Spark Plug Co., Toledo, O.

BATTERY

Ex—Electric Storage Battery Co., Philadelphia.
Nat—National Lead Battery Co., St. Paul, Minn.
Pre—Prest-O-Lite Co., Indianapolis, Ind
USL—U. S. L. Battery Corp., Niagara Falls, N. Y.
Wil—Willard Storage Battery Co., Cleveland, O.
*Var—Various makes—Exide, Willard, Delco-Remy and USL.

HEAT INDICATOR

AC—AC Spark Plug Co., Flint, Mich.
Mot-M—Moto Meter Gauge and Equipment Corp., L. I. City, N. Y., and La Crosse, Wis.
Ste—Stewart Warner Speedometer Corp.
Ster—Sterling Clock Co., La Salle, Ill.

CIGAR LIGHTER

*Cigar lighters in many cases are optional equipment, and are not standard on all models; the names of lighters shown indicate the makes supplied to various car makers.
Cas—Casco Products Corp., Bridgeport, Conn.
GR—Grand Rapids Metalcraft Corp., Grand Rapids, Mich.
NE—North East Appliance Corp., Rochester, N. Y.
Cuno—Cuno Engineering Corp., Meriden, Conp.

Passenger Car Equipment and Accessories

NAME AND MODEL	Speedometer	Clock	Fuel Gauge on Dash	Lock	Spark Plugs	Battery	Heat Indicator	*Cig. Lighter	Smoking Set	Vanity Set	Make of Body Finish Used	Stop Light	Parking or Side Light	Windshield Wings	Heater	Front Bumper	Rear Bumper	Wire Wheels	Shock Absorber
Auburn 8-95	Ste	Wal	K-S	Ele	Cha	USL	Mot-M	Cas	GR	—	Mur	Ind	Ind	—	*Gla	Yes	Yes	Day	Lov
Auburn 6-85	Ste	Wal	K-S	Ele	Cha	USL	Mot-M	Cas	—	—	Mur	Ind	Ind	—	*Kel	Yes	Yes	Day	Lov
Auburn 125	Ste	Wal	K-S	Ele	Cha	USL	Mot-M	Cas	GR	—	Mur	Ind	Ind	—	*Gla	Yes	Yes	Day	Lov
Austin	NE	—	K-S	BS	Cha	USL	—	—	—	—	Duc	—	—	—	—	Cen	Cen	—	Own
Blackhawk 6	Ste	Wal	Mot-M	DR	Cha	Pre	Mot-M	Cas	Lin	Lin	Val	Ind	Ind	Kok	—	Buck	Buck	K-H	Gab
Blackhawk 8	Ste	Wal	Mot-M	DR	Cha	Pre	Mot-M	Cas	Lin	Lin	Val	Ind	Ind	Kok	—	Buck	Buck	K-H	Gab
Buick 40	AC	—	K-S	Her	AC	Ex	AC	—	Tern	Tern	Duc	Gui	Gui	—	—	—	—	K-H	Lov
Buick 50	AC	—	K-S	Her	AC	Ex	AC	—	Tern	Tern	Duc	Gui	Gui	—	—	—	—	K-H	Lov
Buick 60	AC	—	K-S	Her	AC	Ex	AC	—	Tern	Tern	Duc	Gui	Gui	—	—	—	—	K-H	Lov
Cadillac	AC	Jag	Mot-M	DR	AC	Ex	AC	Cas	Tern	Tern	Duc	Hal	Hal	—	*Kel	Eat	Eat	K-H	Lov
Cadillac 452	AC	Jag	Mot-M	DR	AC	Ex	AC	Cuno	Tern	Tern	Duc	Hal	Hal	—	*Opt	Eat	Eat	Buffalo	Lov
Chevrolet	AC	—	AC	DR	AC	*Var	AC	—	Tern	—	Duc	Gui	Gui	—	*Own	†Own	Own	K-H	—
Chrysler 80	NE	Ster	Mot-M	Ele	AC	Wil	Mot-M	Cas	AWS	AWS	Duc	Hal	Hal	Per	—	NM	NM	MotoW	Hou
Chrysler 77	NE	*Wal	Mot-M	Ele	AC	Wil	Mot-M	Cas	AWS	AWS	Duc	Hal	Hal	Per	—	NM	NM	MotoW	Lov
Chrysler 70	NE	*Wal	Mot-M	Ele	AC	Wil	Mot-M	Cas	AWS	AWS	Duc	Hal	Hal	Per	—	NM	NM	MotoW	Lov
Chrysler 66	NE	*Wal	Mot-M	Ele	AC	—	Mot-M	Cas	—	—	Duc	Hal	Hal	—	—	—	—	‡	—
Cord Front Drive	Ste	No	Moto-M	Dr	Cha	USL	Ster	Cas	GR	No	Mur	Ind	Ind	No	No	Alloy	Alloy	Day	Hou
De Soto 6	NE	—	Mot-M	Sha	AC	Wil	—	—	VS	VS	Duc	Hal	Hal	—	—	Yes	Yes	MotoW	Lov
De Soto 8	NE	—	Mot-M	—	AC	Wil	Mot-M	—	VS	VS	Duc	Hal	Hal	—	—	Yes	Yes	MotoW	Lov
Dodge DD	NE	—	Mot-M	—	AC	Wil	—	—	VS	VS	—	Hal	—	—	—	Yes	Yes	†Budd	Lov
Dodge 8	NE	—	Mot-M	—	AC	Wil	Mot-M	—	VS	VS	—	Hal	—	—	—	Yes	Yes	MotoW	Lov
Durant 6-14	NE	No	Mot-M	Ele	AC	USL	Mot-M	No	—	—	—	Cor	—	—	—	Eat	Eat	MotoW	Mon
Durant 6-17	NE	No	Mot-M	Ele	AC	USL	Mot-M	GR	—	—	—	Cor	—	—	—	—	—	MotoW	Mon
Elcar 6-75	Ste	—	Mot-M	Sha	Cha	USL	Mot-M	Cas	—	—	Mur	Hal	Hal	—	—	Ste	Ste	K-H	Gab
Elcar 8-95	Ste	—	Mot-M	Sha	Cha	USL	Mot-M	Cas	—	—	Mur	Gui	Gui	—	—	Ste	Ste	K-H	Gab
Elcar 8-96	Ste	Borg	Mot-M	Sha	Cha	USL	Mot-M	Cas	—	—	Mur	Hal	Hal	—	—	Ste	Ste	K-H	Gab
Elcar 8-130	Ste	Borg	Mot-M	Sha	Cha	USL	Mot-M	Cas	—	—	Mur	Hal	Hal	—	—	Ste	Ste	K-H	Gab
Elcar 140	Ste	Borg	Mot-M	Sha	Cha	USL	Mot-M	Cas	Yes	—	Mur	Hal	Hal	—	—	Ste	Ste	K-H	Gab
Essex 6	Ste	—	Mot-M	Ele	AC	Ex	Mot-M	—	—	—	—	JB	Yes	—	—	Own	Own	MotoW	Mon
Ford A	*Var	—	Own	Ele	Cha	Own	—	—	—	—	—	Yes	—	—	—	—	—	Own	Hou
Franklin 145-147	NE	*Jag	K-S	Yal	Cha	USL	—	Cas	GR	GR	*Duc	JB	JB	—	Kel	Gen	Gen	MotoW	Wahl
Gardner 150	Ste	*Borg	Mot-M	DR	Cha	Pre	Mot-M	Cas	VS	VS	*Ditz	—	Cor	—	—	—	—	MotoW	Lov
Gardner 140	Ste	*Borg	Mot-M	DR	Cha	Pre	Mot-M	Cas	VS	VS	*Ditz	—	Cor	—	—	CG	CG	MotoW	Lov
Gardner 136	Ste	*Borg	Mot-M	DR	Cha	Pre	Mot-M	Cas	VS	VS	*Ditz	—	Cor	—	—	CG	CG	MotoW	Lov
Graham Stan. 6	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	GR	—	Hal	Hal	—	—	Ste	Ste	MotoW	Lov
Graham Sp. 6	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	GR	—	Hal	Hal	—	—	Ste	Ste	MotoW	Lov
Graham Stan. 8	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	GR	—	Hal	Hal	—	—	Ste	Ste	MotoW	Lov
Graham Sp. 8	NE	—	K-S	Her	Cha	Wil	Mot-M	—	GR	GR	—	Hal	Hal	—	—	Ste	Ste	MotoW	Lov
Graham Cust. 8	NE	*Ster	K-S	Her	Cha	Wil	Mot-M	Cas	GR	GR	—	JB	JB	—	—	Ste	Ste	MotoW	Hou
Hudson 8	Ste	—	Mot-M	Ele	AC	Ex	Mot-M	—	—	—	—	Hal	Hal	—	—	Own	Own	MotoW	Wahl
Hupmobile Cen. 6	Ste	Wal	Mot-M	Ele	Cha	Wil	Mot-M	Cas	VS	—	Val	Hal	Hal	—	—	—	—	K-H	Gab
Hupmobile Cen. 8	Ste	Wal	Mot-M	Ele	Cha	Wil	Mot-M	Cas	VS	—	Val	Hal	Hal	—	—	—	—	K-H	Gab
Hupmobile U	Ste	Wal	Ster	Ele	Cha	Wil	Mot-M	Cas	VS	—	Val	Hal	Hal	—	—	—	—	K-H	Gab
Hupmobile H	Ste	Wal	Ster	Ele	Cha	Wil	Mot-M	Cas	VS	—	Val	Hal	Hal	—	—	—	—	K-H	Gab
Hupmobile C	Ste	Wal	Mot-M	Ele	Cha	Wil	Mot-M	Cas	VS	—	Val	Hal	Hal	—	—	—	—	K-H	Gab
Jordan Mod. 8 G	Ste	Ster	Mot-M	Her	Cha	Wil	Mot-M	Cas	GR	—	Dit	Ind	JB	—	—	Cen	Cen	K-H	Gab
Jordan Mod. 8 T	Ste	—	Mot-M	Her	Cha	Wil	Mot-M	—	VS	—	Dit	Ind	Ind	—	—	Cen	Cen	K-H	Gab
La Salle	AC	Jag	Mot-M	DR	AC	Ex	AC	Cas	Tern	Tern	Duc	Hal	Hal	—	*Kel	Eat	Eat	K-H	Lov
Lincoln 8	NE	Tho	K-S	Her	Cha	Ex	Mot-M	Cas	Cuno	Yes	Duc	Own	Own	Own	—	Bif	Bif	Own	Hou
Mar.-Roosev'lt 8	Ste	—	Mot-M	DR	Cha	Nat	—	—	—	—	Val	Vic	Vic	—	—	Ste	Ste	†Budd	Lov
Marmon Eight-69	NE	—	Mot-M	DR	Cha	Nat	Mot-M	—	GR	—	Val	Cor	—	Kok	—	CG	CG	†Budd	Wahl
Marmon Eight-79	NE	—	Mot-M	DR	Cha	Nat	Mot-M	Cas	—	GR	Val	Cor	—	Kok	—	CG	CG	†Day	Wahl
Marmon Big 8	NE	*Ster	Mot-M	DR	Cha	Nat	Mot-M	Cas	—	GR	Val	Cor	—	Kok	—	CG	CG	†Day	Wahl
Marquette	AC	—	K-S	Her	AC	Ex	AC	—	Tern	—	Duc	Gui	—	—	—	—	—	K-H	Lov
Nash Tw. Ign. 8	AC	Borg	K-S	DR	AC	USL	Mot-M	Yes	GR	GR	Duc	Hal	Hal	—	—	Eat	Eat	MotoW	Lov
Nash Tw. Ign. 6	AC	—	K-S	DR	AC	USL	Mot-M	—	AWS	—	Duc	Hal	Hal	—	—	Ste	Ste	MotoW	Lov
Nash Single	AC	—	K-S	DR	AC	USL	AC	—	—	—	Duc	JB	JB	—	—	Ste	Ste	MotoW	Lov
Oakland 8	NE	—	K-S	DR	AC	Wil	—	—	Tern	Tern	Duc	Gui	Gui	—	—	Own	Own	MotoW	Lov
***Oldsmobile**	AC	—	K-S	DR	AC	Wil	AC	—	Tern	—	Duc	Gui	—	—	—	Own	Own	MotoW	Lov
Packard 726-733	NE	Jag	K-S	BS	Cha	Pre	Mot-M	Cas	Own	Yes	Val	Hal	Hal	†Bif	Kel	Cen	Yes	MotoW	Own
Packard 740-745	NE	*Jag	K-S	BS	Cha	Pre	Mot-M	Cas	Own	Yes	Val	Hal	Hal	†Bif	Kel	Cen	Yes	MotoW	Own
Peerless Stand. 8	AC	Ster	Mot-M	BS	Cha	Wil	Mot-M	Cas	GR	No	Val	Gui	—	No	No	Cen	Cen	†Budd	Gab
Peerless Mast. 8	AC	Ster	Mot-M	BS	Cha	Wil	Mot-M	Cas	GR	No	Val	Gui	—	—	—	Eat	Eat	Day	Gab
Peerless Cust. 8	AC	Ster	Mot-M	BS	Cha	Wil	Mot-M	Cas	GR	No	Val	Gui	—	—	—	Eat	Eat	Day	Gab
Pierce-A., C, B, A	NE	Wal	Mot-M	Her	Cha	Wil	Mot-M	NE	VS	VS	—	Aga	Aga	—	—	Eat	Eat	K-H	Hou
Plymouth	NE	—	Mot-M	Sha	AC	Wil	—	—	—	—	Duc	Hal	Hal	—	—	Gen	Gen	‡	—
Pontiac	AC	—	K-S	DR	AC	Pre	—	—	Tern	—	Duc	Gui	Gui	—	—	Own	Own	MotoW	Lov
Reo 15, 20, 25	Ste	—	K-S	*DR	Cha	Wil	AC	—	VS	VS	—	†Gui	—	—	—	§CG	§CG	MotoW	*Lov
Ruxton	Ste	Jag	Mot-M	Her	AC	Wil	Mot-M	Own	Own	Own	Duc	Cor	Wood	Own	—	CG	CG	—	Hou
Studebaker Six	Ste	—	K-S	Yal	Cha	Wil	Mot-M	—	—	—	—	Ind	—	—	No	Eat	Eat	K-H	Lov
Studebak'r Dict. 8	Ste	—	K-S	Her	Cha	Wil	Mot-M	—	—	—	—	Ind	—	—	—	Eat	Eat	K-H	Lov
Stud. Com. 8-70	Ste	—	K-S	Her	Cha	Wil	Ste	—	—	—	—	Gui	—	—	—	Ste	Ste	K-H	Hou
Stud. Pres. 8-80	Ste	NH	K-S	Her	Cha	Wil	Ste	Cas	*Var	—	—	Gui	—	—	—	Ste	Ste	K-H	Hou
Stud. Pres. 8-90	Ste	NH	K-S	Her	Cha	Wil	Ste	Cas	—	—	—	Gui	Gui	—	—	Ste	Ste	K-H	Heu
Stutz	Ste	Wal	Mot-M	DR	Cha	Pre	Mot-M	Cas	Lin	Lin	Val	Ind	Ind	Kok	—	Buck	Buck	K-H	Gab
Viking 8	AC	—	K-S	DR	AC	Wil	AC	—	VS	VS	Duc	Gui	—	—	—	Own	Own	MotoW	Lov
Whippet 96 A	NE	—	—	Ele	Cha	USL	—	—	—	—	—	Yes	—	—	—	—	—	*K-H	Wat
Whippet 98 A	NE	—	—	Ele	Cha	USL	—	—	—	—	—	Yes	Yes	—	—	—	—	*K-H	Wat
Willys 6-98 B	NE	—	Mot-M	Yes	Cha	USL	Mot-M	—	—	—	—	Yes	Yes	—	—	—	—	*K-H	Mon
Willys 8-80	NE	No	Mot-M	Yes	Cha	USL	Mot-M	—	—	—	—	Yes	Yes	—	—	—	—	*K-H	Mon
Willys-Knight 87	NE	—	Mot-M	Ele	Cha	USL	Moto-M	—	—	—	—	Yes	Yes	—	—	—	—	K-H	Mon
Willys-K. 66B	NE	—	Mot-M	Ele	Cha	USL	Mot-M	—	VS	VS	—	Yes	Yes	—	—	—	—	†Budd	Wat
Windsor 6-69	Ste	—	Mot-M	Sha	Cha	Nat	Mot-M	—	—	—	Gli	JB	JB	—	—	†Yes	†Yes	†Budd	Lov
Windsor 6-72-77	Ste	—	Mot-M	DR	Cha	USL	Mot-M	—	Yes	Yes	Gli	JB	JB	—	—	†Yes	†Yes	†Budd	Lov
Windsor 8-85	Ste	—	Mot-M	Joh	Cha	USL	Mot-M	—	Yes	Yes	Gli	JB	JB	—	—	†Yes	†Yes	†Budd	Lov
Windsor 8-92	Ste	—	Mot-M	DR	Cha	USL	Mot-M	—	Yes	Yes	Gli	JB	JB	—	—	†Yes	†Yes	†Budd	Lov

SMOKING AND VANITY SETS

AWS—Art Metal Works, Newark, N. J.
GR—Grand Rapids Metalcraft Corp., Grand Rapids, Mich.
Lin—Linden.
VS—Van Sicklen Corp., Elgin, Ill.
*Extra equipment on Reo Model 15.
Tern—Ternstedt Mfg. Co., Detroit, Mich.
Cuno—Cuno Engineering Corp., Meriden, Conn.
*Var—Various makes.

BODY FINISH

Ditz—Ditzler Color Co., Detroit, Mich.
Duc—E. I. du Pont de Nemours & Co., Philadelphia.
Gli—Glidden Co., Cleveland, O.
Mur—Murphy Varnish Co., Newark, N. J.
Val—Valentine & Co., New York city.
*Various other lacquers used.
†Also Gli.

STOP AND PARKING LIGHTS

Cor—Corcoran Lamp Co.
Vic—Cincinnati-Victor Co., Cincinnati, O.
Aga—Federal Pressed Steel Co., Chicago.
Gui—Guide Lamp Corp., Anderson, Ind.
Hal—C. M. Hall Lamp Co., Detroit, Mich.
Ind—Indiana Lamp Corp., Connersville, Ind.
Ryan—Ilco Sales Corp., Detroit.
Sto—Stover Signal Engineering Co., Racine, Wis.
JB—The Jno. W. Brown Lamp Mfg. Co., Columbus, O.
Wood—Woodlite, Ltd., Los Angeles C,al.
†Reo Model 15 uses Hall.

WINDSHIELD WINGS

Kok—Kokomo Automotive Mfg. Co.
*Extra equipment on the Reo 15.
Per—Perfection Co., Chicago.
Bif—Biflex—Oakes Products Corp., Chicago, Ill.
†Not standard equipment.

HEATER

Gla—Gladiator Mfg. Co., Auburn, Ind.
Kel—Kelch; made by Grand Rapids Metalcraft Corp., Grand Rapids, Mich.
Per—Eaton Axle & Spring Co., Cleveland.
Wahl—Wahl Company, Chicago, Ill.
*Special equipment.
*Optional.

BUMPERS

Alloy Steel Spring & Axle Co., Jackson, Mich.
Bad—Badger Mfg. Corp., Milwaukee.
Bif—Biflex Corp., Waukegan, Ill.
Buck—See Cen.
Cen—Central Brass & Fixture Co., Springfield, O. Also makers of Buckeye bumpers.
CG—CG Spring & Bumper Co., Detroit.
Eat—Eaton Axle & Bumper Co., Cleveland.
Gen—General Spring and Bumper, Detroit, Mich.
New Method Sales Co., Allegan, Mich.
Ste—Stewart-Warner Speedometer Corp., Chicago.
†Extra equipment.
*Also using Eat.
‡Extra equipment on Reo Model 15.

WIRE WHEELS

Budd—Budd Wheel Co., Detroit, Mich.
MotoW—Motor Wheel Corp., Lansing, Mich.
Day—Dayton Wire Wheel Co., Dayton, O.
K-H—Kelsey-Hayes, Detroit, Mich.
Buffalo—Wire Wheel Corporation of America, Buffalo, N. Y.
*On some models.
**Using both Budd and Kelsey-Hayes.
†Not standard equipment.
‡Using both Kelsey Hayes and Motor Wheel Corp.

SHOCK ABSORBERS

Gab—The Gabriel Company, Cleveland.
Hou—Houde Engineering Corp., Buffalo, N. Y.
Lov—Delco Products Corp., Dayton, O
Mon—Monroe Auto Equip. Mfg. Co., Monroe, Mich.
Wahl—Wahl Co., Chicago, Ill.
Wat—John Warren Watson Co., Philadelphia.
*Extra equipment on Reo 15.

Foreign Trade Opportunities

Washington, D. C., July 16.—Foreign automotive trade opportunities just announced by the automotive division of the Bureau of Foreign and Domestic Commerce of the Department of Commerce are listed below.

Additional information may be obtained from the bureau and its district and co-operative offices by duly registered firms or individuals upon written request, giving the opportunity number.

46166—Egypt, Wad Medani, Sudan; purchase and agency for automobile accessories, spare parts and garage equipment.

46164—France, Calais; purchase and agency for automobile accessories, spare parts and specialties, such as gasoline economizers, brake linings, dashboard equipment, screen wipers and saloon equipment.

46123—Australia, Sydney; purchase and agency for automobile accessories and tools.

46128—Germany, Breslau; purchase for automobile cylinder grinding machines.

46127—South Africa, Johannesburg; agency for automobile electric light lamps.

46239—Brazil, Sao Paulo; agency for automobile transmission gears.

46124—Czecho-Slovakia, Prague; agency for automobile and motor bus accessories and parts.

46126—Germany, Berlin; agency for automobile and motorcycle accessories and replacement parts.

46240—Germany, Berlin; agency for automobile and motorcycle accessory novelties.

46187—Egypt, Khartoum, Sudan; purchase and agency for automobiles, accessories, replacement parts, garage equipment, etc.

46125—France, Paris; purchase and agency for automobiles, trucks, trailers and accessories and parts.

46161—France, Levallois-Perrett; purchase for trucks, motor, electric.

45776—Berlin, Germany; purchase and agency for automobile replacement parts.

45778—Berlin, Germany; purchase for automobile steering wheels of special and novel construction.

45788—Berlin, Germany; agency for automobile and tire accessories.

45767—Berlin, Germany; agency for automobile and truck wheels and rims.

Personal Briefs

Newark, N. J., July 16.—Glen W. Tisdale, local Hupmobile distributor, and Mrs. Tisdale are enjoying a vacation in New York state. After spending a few days at the Wanakah Golf Club at Angola, near Buffalo, they will motor to the summer home of Mr. Tisdale's father, G. A. Tisdale, at Skaneateles Lake for some fishing.

Indianapolis, Ind., July 16.—Announcement has just been made here of the appointment of R. H. Losey, widely known in automobile sales circles, as vice-president and general manager of Graham-Paige of Indiana, Inc., with supervision over other factory branches at Cincinnati, O.; Louisville, Ky., and Evansville, Ind., a territory covering parts of Ohio, West Virginia, Kentucky, Illinois and Indiana.

Chattanooga, Tenn., July 16.—The Morgan-Carroll Auto Company, local distributor for De Soto, has just announced the appointment of E. S. McCarty as sales manager.

Pittsburgh, Pa., July 16.—Harry G. Samson, head of the Samson Motor Company, local Chrysler distributor, sailed for Europe last week.

Los Angeles, July 16.—Charles J. Neeland, new Stutz distributor for southern California, has returned from San Francisco, where he conferred with William Coombes, northern California Stutz distributor. Upon his return Neeland expressed himself as being optimistic as a result of livlier sales activity for Stutz. He foresees continued sales activity on a large scale.

Spokane, Wash., July 16.—Fred C. Ashley has been promoted to the sales managership of the Nash Washington Company here, succeeding N. Turner, resigned. Mr. Ashley's experience covers nearly a decade and he has been wholesale as well as retail salesman and has had charge of sales promotional work.

Atlanta, Ga., July 16.—Charles Sanger, who has been factory service representative for the Willys-Overland Company here for several years, has been appointed manager of the service department of the W. A. Christ Company, local Willys, Willys-Overland and Whippet dealership.

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS

MAKE AND MODEL	Weight—5-P. Sedan	Wheel Base	Engine Make	Fan Belt Type	Thermostat Used	Valve Arrangement	Cylinders	Bore and Stroke	Piston Disp.	Compression Ratio	Tax H. P.	Brake, H. P. and Peak R. P. M.	Pist. Make or Material	No. Main Br.	Oil Purifier	Fuel Clean'r	Carburetor	Air Cleaner
Auburn 6-85	3255	120	Lyc	V	Dole	L	6	2⅞x4¾	185	*5.16	19.8	70@3400	*Alum	4	No	No	Sch	No
Auburn 8-95	3510	125	Lyc	V	Dole	L	8	2⅞x4¾	246	*5.15	26.4	95@3300	*Alum	5	Pur	AC	Sch	No
Auburn 125	3908	130	Lyc	V	Dole	L	8	3¼x4½	299	*5.25	33.8	125@3600	*Alum	5	Pur	AC	Sch	No
Austin	§1130	75	Own	F	——	L	4	2.2 x3	45.8	5.1	7.8	13@3000	Alum	2	—	—	Til	—
Blackhawk 6	4320	127½	Own	V	Bish-Bab	O	6	3⅜x4½	241.5	5.25	27.3	85@3150	*Alum	7	Wal	AC	Zen	Un
Blackhawk 8	4185	127½	Own	V	Bish-Bab	L	8	3 x4¾	268.5	5.50	28.8	88@3200	*Alum	5	Wal	AC	Zen	AM
Buick 40	3881	118	Own	V	Bish-Bab	O	6	3 1/16x4⅝	257.5	4.51	28.4	80½@2800	CI	4	AC	AC	Mar	AC
Buick 50 and 60	4443	124-132	Own	V	Bish-Bab	O	6	3¾x5	331.0	4.37	33.75	98@2800	CI	4	AC	AC	Mar	AC
Cadillac 353	5055	*210	Own V	V	Yes	L	8	3⅜x4 13/16	353	5.15	36.5	95@3000	CI	3	AC	Gas	Own	—
Cadillac 452	6100	148	Own	V	Yes	O	16	3 x4	452.0	5.50	57.5	165@3400	CI	5	AC	Gas	Own	None
Chevrolet	2500	107	Own	V	Yes	O	6	3 1/16x3¾	194.0	5.01	26.3	46@2600	CI	3	—	AC	Car	AC
Chrysler 6	2745	*169¼	Own	V	Yes	L	6	3⅛x4¼	195.6	5.29	23.44	62@3200	*Alum	4	—	Yes	Car	—
Chrysler 77	3770	*177½	Own	V	Yes	L	6	3⅜x5	268.4	5.00	27.34	93@3200	*Alum	7	Pur	AC	Str	Un
Chrysler 70	3435	*168½	Own	V	Yes	L	6	3⅜x5	268.4	5.00	27.34	93@3200	*Alum	7	Pur	AC	Str	Un
Chrysler 66	2850	*163¼	Own	V	——	L	6	3⅛x4¾	218.6	5.00	23.43	68@3000	Alum	7	Pur	AC	Str	Un
Chrysler Imperial	4335	*191	Own	V	Yes	L	6	3⅝x5	309.3	5.00	31.54	100@3200	Alum	7	Pur	AC	Str	Un
Cord (Fr. Wh. Dr.)	4530	137½	Lyc	V	——	L	8	3¼x4½	298.6	5.25	33.8	125@3600	*Alum	5	Yes	AC	Sch	—
De Soto 6	2705	*168¼	Own	V	Yes	L	6	3⅛x4⅛	189.81	5.16	23.44	60@3400	*Alum	4	—	AC	Car	Un
De Soto 8	2965	*177	Own	V	Yes	L	8	2⅞x4	207.7	5.20	26.45	70@3400	*Alum	5	—	AC	Str	Yes
Dodge Six D D	2668	*168⅝	Own	V	Yes	L	6	3⅛x4⅛	189.8	5.20	23.4	60@3400	*Alum	4	No	No	Car	—
Dodge 8	3043	*176⅞	Own	V	Yes	L	8	2⅞x4¼	220.7	5.20	26.45	75@3400	*Alum	5	Pur	No	Str	Un
Durant 6-14	2950	*172¼-176	Con	V	Bish-Bab	L	6	3¼x4	199	5.32	25.4	58@3100	*Alum	4	AC	AC	Str	AC
Durant 617	3290	*175¾-179½	Con	V	Bish-Bab	L	6	3⅜x4⅝	248	5.06	27.34	70@3000	*Alum	7	AC	AC	Str	AC
Elcar 6-75	2942	117	Lyc	V	Yes	L	6	2⅞x4¾	185	5.25	19.8	61@3000	*Alum	4	Pur	Gas	Sch	—
Elcar 140 and 139	3980	135-130	Con	V	Yes	L	8	3⅜x4½	322	5.25	36.45	140@3300	*Alum	5	Pur	Gas	Sch	—
Elcar 8-95-96	3299	123	Lyc	V	Yes	L	8	2⅞x4¾	246.7	5.25	26.5	90@3000	*Alum	5	Pur	Gas	Sch	—
Essex	2805	113	Own	V	——	†L	6	2¾x4½	160.4	5.80	18.15	60@3600	Alum	3	—	Ste	Mar	AC
Ford A	2336	103½	Own	V	——	L	4	3⅞x4¼	200.5	4.22	24.03	40@2200	Alum	3	—	AC	Zen	—
Franklin 145	3930	125	Own	—	Bish-Bab	*O	6	3½x4¾	274	5.30	29.4	95@3000	Alum	7	AC	AC	Str	AC
Franklin 147	4060	132	Own	—	Bish-Bab	*O	6	3½x4¾	274	5.30	29.4	95@3000	Alum	7	AC	AC	Str	AC
Gardner 136	3330	122	Lyc	V	Dole	L	6	2⅞x4⅞	185	5.05	19.8	70@3500	*Alum	4	Pur	Gas	Sch	—
Gardner 140	3500	125	Lyc	V	Dole	L	8	2⅞x4¾	246.6	5.15	26.5	90@3300	*Alum	5	Pur	Gas	Sch	AM
Gardner 150	3890	130	Lyc	V	Dole	L	8	3¼x4½	298.6	5.25	33.8	126@3300	*Alum	5	Pur	Gas	Sch	AM
Graham Std. 6	3175	115	Own	F	Dole	L	6	3⅛x4½	207	5.41	23.44	66@3200	*Alum	7	No	AC	DL	AC
Graham Spl. 6	3390	115	Own	F	Dole	L	6	3¼x4½	224	5.49	25.35	76@3400	*Alum	7	AC	AC	DL	AC
Graham Std. 8	3795	122	Own	V	Bish-Bab	L	8	3¼x4½	298	5.20	33.80	100@3400	*Alum	5	AC	AC	DL	AC
Graham Spl. 8	3875	122	Own	V	Bish-Bab	L	8	3¼x4½	298	5.20	33.80	100@3400	*Alum	5	AC	AC	DL	AC
Graham Cust. 8	4300	127	Own	F	Bish-Bab	L	8	3⅜x4½	322	5.41	36.45	120@3200	*Alum	5	AC	AC	John	AC
Graham Cust. 8	4405	137	Own	F	Bish-Bab	L	8	3⅜x4½	322	5.41	36.45	120@3200	*Alum	5	AC	AC	John	AC
Hudson Super 8	3200	119-126	Own	V	——	L	8	2⅞x4½	213.8	5.80	24.2	80@3600	Alum	5	—	Ste	Mar	AC
Hupmobile Cen. 6	2905	———	Own	V	——	L	6	3¼x4¼	211.6	5.10	25.35	70@3200	Alum	4	—	Ste	Str	—
Hupmobile Cen. 8	3175	———	Own	V	Pines	L	8	2⅞x4⅝	240.2	5.20	26.45	90@3200	Alum	5	—	Ste	Str	—
Hupmobile C	3725	———	Own	V	No	L	8	3 x4¾	268.6	5.20	28.8	100@3200	CI	5	Pur	Gas	Str	Yes
Hupmobile H and U	4000	———	Own	—	No	L	8	3½x4¾	365.6	5.20	39.2	133@3400	Alum	5	Pur	Ste	Str	AM
Jordan St. Line 80	3490	120	Con	V	Pines	L	8	2⅞x4¾	246.7	5.10	26.5	80@3000	*Alum	5	Ste	AC	Str	AC
Jordan G. Ninety 8	3700	125	Con	V	Pines	L	8	3 x4¾	268.6	5.10	28.9	85@3200	*Alum	5	Ste	Ste	Str	AM
La Salle	4645	*201	Own	V	Yes	LV	8	3 1/16x4 13/16	340	5.18	35.1	90@3000	CI	3	AC	Gas	Own	—
Lincoln	5030	136	Own	V	——	L	8	3½x5	384	4.83	39.2	90@2800	Alum	5	Pur	Own	Str	Un
Marmon-Roosevelt	2833	*172	Own	V	Dole	L	8	2¾x4¼	201.9	5.25	24.2	77@3400	Alum	5	—	—	Str	AC
Marmon Eight 69	3103	*180	Own	V	——	L	8	2 13/16x4¼	211.2	5.50	25.4	84@3400	Alum	5	AC	AC	Sch	AC
Marmon Eight 79	4028	*191	Own	V	Pines	L	8	3 1/16x4¾	303.2	5.50	32.5	110@3400	Alum	5	AC	AC	Sch	AC
Marmon Big Eight	4363	*202	Own	V	Pines	L	8	3¼x4¾	315.2	5.50	33.8	125@3400	Alum	5	AC	AC	Sch	AC
Marquette 30	3076	114	Own	V	Bish-Bab	L	6	3⅛x4⅝	212.8	5.20	23.4	67½@3000	CI	4	AC	AC	Mar	AC
Nash Single Six	2850	114¼	Own	V	Pines	L	6	3⅛x4⅜	201.3	5.00	23.4	60@2800	*Alum	7	AC	AC	Car	AC
Nash Twin Ig. 6	3535	118-128¼	Own	V	Pines	L	6	3⅜x4½	242	5.00	27.3	74@2800	*Alum	7	AC	AC	Mar	AC
Nash Twin Ig. 8	4000	124-133	Own	V	Pines	L	8	3¼x4½	298.6	5.25	33.8	100@3200	*Alum	9	AC	AC	Mar	AC
Oakland V-8	3095	117	Own	V	Yes	H	8	3 1/16x3⅜	251.0	5.00	37.8	85@3000	CI	3	—	AC	Mar	AC
Oldsmobile	2840	113½	Own	V	——	L	6	3⅜x4⅛	197.5	5.20	24.4	62@3000	CI	4	AC	AC	John	AC
Packard 726-733	4255	127½-134½	Own	V	Own	L	8	3 1/16x5	320	—	32.5	90@3200	Alum	9	Pur	Yes	Own	Own
Packard 740-745	4560	140½-145½	Own	V	Own	L	8	3½x5	384.8	—	39.2	106@3200	*Alum	9	Pur	Yes	Own	Own
Peerless St. 8	3642	118	Own	V	Bish-Bab	L	8	2⅞x4¾	246.0	5.00	26.45	85@3200	*Alum	5	Pur	AC	Sch	AC
Peerless Master 8	4521	125	Own	V	Bish-Bab	L	8	3⅜x4½	322	5.00	36.4	115@3200	*Alum	5	Pur	AC	Sch	AC
Peerless Custom 8	4800	138	Own	V	Bish-Bab	L	8	3⅜x4½	322	5.00	36.4	120@3200	*Alum	5	Pur	AC	Sch	AC
Pierce-Arrow 132	4523	132	Own	V	Yes	L	8	3⅜x4¾	340	5.07	36.45	115@3000	*Alum	9	Yes	Yes	Str	Un
Pierce-Arrow 139	4713	139	Own	V	Yes	L	8	3½x4¾	366	5.07	39.2	125@3000	*Alum	9	Yes	Yes	Str	Un
Pierce-Arrow 126	4831	144	Own	V	Yes	L	8	3½x5	385	5.07	39.2	132@3000	*Alum	9	Yes	Yes	Str	Un
Pierce-Arrow 125	4304	134	Own	V	Yes	L	8	3½x4¾	366	5.07	39.2	125@3000	*Alum	9	Yes	Yes	Str	Un
Plymouth	2595	*167	Own	V	——	L	4	3⅝x4¾	196	4.60	21.03	48@2800	Alum	3	—	Yes	Car	—
Pontiac	2695	110	Own	V	Var	L	6	3 1/16x3⅞	200.0	4.90	26.3	60@3000	S St	3	—	AC	Car	—
Reo 15	3300	115	Con	V	Dole	L	6	3⅜x4	214.7	5.50	27.3	60@2800	*Alum	7	—	—	Sch	Un
Reo 20	3700	120	Own	V	Bish-Bab	L	6	3⅜x5	268.3	5.30	27.3	80@3200	Alum	7	Han	—	Sch	Un
Reo 25	3795	124	Own	V	Bish-Bab	L	6	3⅜x5	268.3	5.30	27.3	80@3200	Alum	7	Han	—	Sch	Un
Ruxton Fr. Wh. Dr.	4000	130	Own	V	Yes	L	8	3 x4¾	268.6	5.09	28.8	100@3400	*Alum	5	Yes	AC	Zen	AM
Studebaker Six	2950	114	Own	V	Dole	L	6	3¼x4⅛	205.3	5.20	25.4	70@3200	CI	4	Han	Ste	Sch	—
Studebaker Dict. 8	3095	115	Own	V	Dole	L	8	3 1/16x3¾	221.0	5.00	30.0	72@3200	*Alum	9	Pur	AC	Str	AM
Studebaker Com. 8	3525	124	Own	V	Dole	L	8	3⅛x4¼	250.4	5.20	30.0	101@3200	*Alum	9	Han	Ste	Str	AM
Studebak'r Pres. 80	4230	130	Own	V	Dole	L	8	3½x4⅜	337	5.10	39.2	122@3200	*Alum	9	Han	Ste	Str	AM
Studebak'r Pres. 90	*4360	136	Own	V	Dole	L	8	3½x4⅜	337	5.10	39.2	122@3200	*Alum	9	Han	—	Str	AM
Stutz	4718	134½-145	Own	C	Yes	O	8	3¼x4½	322	5.25	36.5	80@3300	*Alum	9	Wal	Gas	Zen	AM
Viking Eight	3620	125	Own	V	Yes	H	8	3⅜x3⅝	259.5	5.10	36.5	81@3200	CI	3	Own	AC	John	AC
Windsor 6-69	3195	120	Con	V	Dole	L	6	2⅞x4¾	185	5.00	19.8	47.5@2600	*Alum	4	AC	—	Str	—
Windsor 6-72	2930	120	Con	V	Dole	L	6	3⅜x4	215	4.94	27.3	66@3200	*Alum	7	AC	—	Str	—
Windsor 6-77	2930	120	Con	V	Dole	L	6	3⅜x4	215	4.94	27.3	66@3200	*Alum	7	AC	—	Str	—
Windsor 8-85	3600	125	Con	V	Dole	L	8	3 x4¾	269	5.00	28.8	88@3200	*Alum	5	AC	Gas	Str	AC
Windsor 8-92	3600	125	Con	V	Dole	L	8	3 x4¾	269	5.00	28.8	88@3200	*Alum	5	AC	Gas	Str	AC
Whippet 96 A	2412	103¼	Own	V	No	L	4	3¼x4¾	145.7	5.40	15.6	40@3200	*Alum	3	No	No	Til	No
Whippet 98 A	2693	112½	Own	V	Dole	L	6	3⅛x3⅞	178.3	5.12	23.4	50@3000	*Alum	7	No	Til	Til	Til
Willys Six 98-B	2641	110	Own	V	Var	L	6	3¼x3⅞	193	5.56	25.3	65@3400	CI	4	No	Til	Til	Til
Willys 8-80	3114	120	Con	V	Var	L	8	3⅛x4	245.4	5.40	31.25	80@3200	CI	5	No	Til	Til	Til
Willys-Knt. 66-B	3934	120	Own	V	Var	K	6	3⅜x4¾	255	5.50	27.3	87@3200	*Alum	7	Ski	Til	Til	Til
Willys-Knt. 87	2989	112½-115	Own	V	Var	K	6	2 13/16x4¾	177.9	5.88	20.7	55@3000	*Alum	7	Ski	Til	Til	Til

ABBREVIATIONS

Weight—*Studebaker 7-pass. sedan. †On Elcar 140 4375 pounds. §Austin Standard coupe.

Wheel Base—*Over all length of chassis instead of wheel base.

Engine Make—Con, Continental; Lyc, Lycoming.

Fan Belt Type—V, V-type; F, flat; C, cone.

Thermostat—Bish-Bab, Bishop & Babcock; Dole, Dole Valve Co., Chicago, Ill.; Pines, Pines Winterfront; Var, Various makes.

Valve Arrangement—L, L head; H, horizontal; O, overhead; K, sleeve valve. *Air cooled. †Thermo Syphon water circulation.

Piston Material—*Alum, aluminum with invar struts; Alum, aluminum alloy; CI, cast iron; S St, semi steel.

Compression Ratio—*Optional on the Auburn.

Oil Purifier—Pur, Purolator; Wal, Wall; Han, Handy; AC, AC Spark Plug Company; Ski, Skinner; Ste, Stewart-Warner.

Fuel Cleaner—AC, AC Spark Plug Company; Gas, Gascolator; Ste, Stewart-Warner; Til, Tillotson.

Carburetor—Sch, Wheeler Schebler; Zen, Zenith; Mar, Marvel; Car, Carter; Str, Stromberg; DL, Detroit Lubricator; John, Johnson; Til, Tillotson.

Air Cleaner—AC, AC Spark Plug Company; AM, Air Maze; Un, United; Han, Handy; Til, Tillotson.

Front End Drive—Link, Link Belt; Tex, Textolite; Cel, Cereron; Ram, Ramsey; Whit, Whitney Chain; Diam, Diamond Chain; Var, Various makes of chains; Var-G, Various makes of gears.

Ignition, Generator and Starter—Aut-L, Auto-Lite; Del-R, Delco-Remy; N E, North East; Dyn, Dyneto. *Bendix starter drive used.

Clutch—Borg, Borg & Beck; Br-L, Brown-Lipe; Rock, Rockford Machine; Russ, Russell; Long, Long Clutch Co.

Gearset—War G, Warner Gear Company; Detr, Detroit Gear; Mun, Muncie Gear. *Three or four speed gear sets as shown are available for either model; WC, Warner Corp.

Universals—Un P, Detroit Universal Products Company; Spic, Spicer Mfg. Corporation; MM, Mechanics Universal Joint Company, Rockford, Ill.; Cle, Cleveland; Fab, Fabric.

Rear Axle—Col, Columbia; Sal, Salisbury; Cla, Clark Equipment Company; Tim, Timken.

Steering Gear—Gem, Gemmer; Ross Gear and Tool Company; Sag, Saginaw; Say-B, Saylor-Beall Mfg. Company, Detroit, Mich.; War, Warbler.

Brakes—H, hydraulic; M, mechanical; SD, steeldraulic; Bendix, Bendix Brake Corporation. *Bendix front; own rear.

Rear Springs—S, semi-eliptic; El, full eliptic; Cant, semi-cantilever.

Spring Shackles—Tryon, Tryon Spring Shackle Company; Rub B, rubber block; Chain; Faf, Fafnir; O-N, Henry Mfg. Co., Moline, Ill.; Belf, Belflex Corp.

Chassis Lubricator—Alem, Alemite; Al-Z, Alemite Zerk; Alem A, Alemite automatic; Bijur, Bijur chassis lubricator; Cen, central magazine.

Tires—*Packard 733 cars equipped with 20x6.50.

OF PRESENT AMERICAN PASSENGER CAR MODELS

Make and Model	Front End Drive	Ignition System	Gen. and Starter	Clutch	Gear Set and Speeds	Universals	Rear Axle	Ratio	Brakes	Steering Gear	Springs Rear	Spring Shackles	Chassis Lubric.	Tires
Auburn 6-85	Link	Del-R	*Del-R	Long	War 3	Un P	Col ½	4.9	H	Ross	S 56¾	Own	Bijur	18x5.50
Auburn 8-95	Link	Del-R	*Del-R	Long	War 3	Un P	Col ½	4.7	H	Ross	S 56¾	Own	Bijur	18x6.00
Auburn 125	Link	Del-R	*Del-R	Long	Detr 3	Un P	Col ½	4.45	H	Ross	S 56¾	Own	Bijur	18x6.50
Austin	Gear	Aut-L	*Aut-L	Rock	War-G 3	Spic	Sal	5.25	Mech	Say B	Cant	Own	Zerk	18x3.75
Blackhawk 6	Link	Del-R	Del-R	Borg	Detr 4	Un P	Sal ½	4.75	H	Gem	S 60	Own	Bijur	31x6.00
Blackhawk 8	Link	Del-R	*Del-R	Borg	Detr 4	Un P	Sal ½	†4.75	H	Gem	S 60	Own	Bijur	31x6.00
Buick 40	Tex	Del-R	Del-R	Own	Own 3	Own	Own ¾	4.54	M	Sag	S 55	Own	Al-Z	29x5.50
Buick 50 and 60	Tex	Del-R	Del-R	Own	Own 3	Own	Own ¾	4.45	M	Sag	S 58½	Own	Al-Z	19x6.50
Cadillac 353	Chain	Del-R	Del-R	Own	Own 3	Spic	Own ¾	5.08	Own-M	Own	S 60	Own	Alem	19x7.00
Cadillac 452	Chain	Del-R	Del-R	Own	Own 3	Spic	Own ¾	4.39	Own	Own	S 60	Own	Alem	19x7.00
Chevrolet	Var	Del-R	*Del-R	Own	Own 3	Own	Own ½	3.82	M	Own	S 54	Tryon	Alem	19x4.75
Chrysler 6	Chain	Del-R	Del-R	Own	Own 3	Un P	Own ½	4.6	H	War	S 53¾	Tryon	Al-Z	19x5.00
Chrysler 77	Chain	Del-R	Del-R	Own	Own 4	Un P	Own ½	3.82	H	Ross	S 58¼	Rub B	Al-Z	18x6.00
Chrysler 70	Chain	Del-R	Del-R	Own	Own 4	Un P	Own ½	3.82	H	War	S 57¾	Rub B	Al-Z	18x5.50
Chrysler 66	Chain	Del-R	Del-R	Own	Own 3	Un P	Own ½	4.70	H	War	S 54⅝	Rub B	Al-Z	18x5.50
Chrysler Imperial	Chain	Del-R	Del-R	Own	Own 4	Un P	Own ½	3.77	H	Ross	S 58⅞	Rub B	Al-Z	18x7.00
Cord (Fr. Wh. Dr.)	Link	Del-R	*Del-R	Long	Det 3	UnP&MM	Col F	4.41	H	Gem	S 62	Own	Bijur	18x7.00
De Soto 6	Chain	Del-R	*Del-R	Borg	Own 3	Un P	Own ½	4.6	H	War	S 53¾	Tryon	Al-Z	19x5.00
De Soto 8	Chain	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.6	H	War	S 54⅝	Rub B	Al-Z	19x5.25
Dodge Six D D	Chain	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.9	H	War	S 53¾	Tryon	Al-Z	19x5.00
Dodge 8	Chain	Del-R	Del-R	Borg	Own 3	Un P	Own ½	4.6	H	War	S 54⅝	Rub B	Al-Z	18x5.50
Durant 6-14	Chain	Aut-L	*Aut-L	Borg	Own 3	Spic	Own ½	4.4	S D	Own	S 55	Tryon	Alem	29x5.00
Durant 6-17	Chain	Aut-L	*Aut-L	Borg	Own 4	Spic	Own ½	3.72	S D	Own	S 55	Tryon	Alem	29x5.50
Elcar 6-75	Link	Del-R	*Del-R	Long	War-G 3	Spic	Sal ½	4.88	H	Ross	S 53½	Belf	Alem	29x5.00
Elcar 140 and 130	Link	Del-R	*Del-R	Long	War-G 4	Spic	Sal ½	...	H	Ross	S 57	Belf	Alem	30x7.00
Elcar 8-95-96	Link	Del-R	*Del-R	Long	War-G 3	Spic	Sal ½	4.90	H	Ross	S 56	Belf	Alem	29x5.50
Essex	Chain	Aut-L	*Aut-L	Own	Own 3	Spic	Own ½	5.4	Bendix	Gem	S 54⅝	Own	Alem	19x5.00
Ford A	Cel	Own	*Own	Own	Own 3	Own	Own ¾	3.7	M	Gem	S Tr	Own	Al-Z	19x4.75
Franklin 145	Ram	Del-R	*Del-R	Br-L	*Detr 4	Spic	Own ½	4.54	H	Gem	El 42	None	Al-Z	19x6.50
Franklin 147	Ram	Del-R	*Del-R	Br-L	War-G 3	Spic	Own ½	4.54	H	Gem	El 42	None	Al-Z	19x6.50
Gardner 136	Link	Del-R	*Del-R	Borg	War-G 4	Spic	Col ½	4.45	H	Ross	S 54	O-N	Alem	29x5.50
Gardner 140	Link	Del-R	*Del-R	Borg	War-G 3	Spic	Col ½	4.45	H	Ross	S 54	O-N	Alem	29x5.50
Gardner 150	Link	Del-R	*Del-R	Borg	War-G 3	Spic	Col ½	4.45	H	Ross	S 57	O-N	Alem	30x6.50
Graham Std 6	Link	Del-R	*Del-R	Long	War-G 3	Un P	Sal ½	4.7	H	Ross	S 54	Tryon	Al-Z	19x5.00
Graham Spl. 6	Link	Del-R	*Del-R	Long	War-G 4	Un P	Sal ½	3.91	H	Ross	S 54	Tryon	Al-Z	18x5.50
Graham Std. 8	Link	Del-R	Del-R	Long	W C 3	Un P	Sal ½	4.45	H	Ross	S 56	Rub B	Al-Z	18x6.00
Graham Spl. 8	Link	Del-R	Del-R	Long	War-G 4	Un P	Sal ½	3.90	H	Ross	S 56	Rub B	Al-Z	18x6.00
Graham Cust. 8	Link	Del-R	Del-R	Long	War-G 4	Un P	Cla ½	3.64	H	Ross	S 58	Own	Bijur	19x6.50
Graham Cust. 8	Link	Del-R	Del-R	Long	War-G 4	Un P	Cla ½	3.92	H	Ross	S 58	Own	Bijur	19x6.50
Hudson Super 8	Chain	Aut-L	*Aut-L	Own	Own 3	Spic	Own ½	4.6	Bendix	Gem	S 54⅝	Own	Alem	18x5.50
Hupmobile Cen 6	Chain	Aut-L	Aut-L	Borg	Detr 3	—	Sal	——	S D	Ross	S 53	——	Al-Z	19x5.50
Hupmobile Cen 8	Chain	Aut-L	Aut-L	Borg	Detr 3	—	Sal	——	S D	Ross	S 52¾	——	Al-Z	19x5.50
Hupmobile C	Chain	Aut-L	*Aut-L	Long	Detr 3	Un P	Own ½	4.36	S D	Ross	S 54	Own	Alem	31x6.00
Hupmobile H and U	Chain	Aut-L	*Aut-L	Long	Detr 3	Un P	Own ½	4.07	S D	Ross	S 57	Own	Alem	19x6.50
Jordan St. Line 80	Chain	Aut-L	*Aut-L	Long	War-G 3	Cle	Col ½	4.9	H	Gem	S 55¾	O-N	Alem	28x5.50
Jordan Grt. Ninety 8	Chain	Aut-L	*Aut-L	Long	War-G 3	Cle	Col ½	4.25	H	Gem	S 55¾	O-N	Alem	30x6.00
La Salle 340	Chain	Del-R	Del-R	Own	Own 3	Spic	Own ¾	4.54	Own-M	Own	S 58	Own	Alem	19x6.50
Lincoln	Chain	Del-R	Del-R	Own	Own 3	Spic	Tim F	4.58	Bendix	Gem	S 60	Own	Alem	20x7.00
Marmon-Roosevelt	Diam	Del-R	*Del-R	Rock	War-G 3	Spic	Sal ½	4.9	Bendix	Ross	S 54⅛	Tryon	Al-Z	19x5.50
Marmon Eight-69	Diam	Del-R	*Del-R	Rock	War-G 3	Spic	Sal ½	4.9	Bendix	Ross	S 56⅞	Rub B	Al-Z	19x5.50
Marmon Eight-79	Diam	Del-R	*Del-R	Rock	Detr 3	Spic	Sal ½	4.7	Bendix	Ross	S 60	Rub B	Al-Z	19x6.00
Marmon Big 8	Diam	Del-R	*Del-R	Rock	War-G 4	Spic	Sal ½	4.45	Bendix	Ross	S 60	Rub B	Al-Z	19x6.50
Marquette 30	Link	Del-R	Del-R	Borg	Mun 3	MM	Own ½	4.54	M	Sag	S 54½	Tryon	Al-Z	28x5.25
Nash Single Six	Cel	Aut-L	*Aut-L	Borg	Own 3	Fab	Own ½	4.7	S D	Ross	S 50⅞	Tryon	Alem A	29x5.00
Nash Twin Ig. 6	Cel	*Aut-L	*Aut-L	Borg	Own 3	Own	Own ½	4.5	Bendix	Gem	S 54	Own	Bijur	29x5.50
Nash Twin Ig. 8	Diam	*Aut-L	*Aut-L	Borg	Own 3	Own	Own ½	4.5	Bendix	Gem	S 56¾	Own	Bijur	31x6.50
Oakland V-8	Chain	Del-R	Del-R	Own	Own 3	MM	Own ½	4.42	M	Sag	S 54½	Tryon	Al-Z	28x5.50
Oldsmobile	Var	Del-R	Del-R	Borg	Mun 3	Un P	Own ½	4.54	Own	Sag	S 54½	Tryon	Alem	28x5.25
Packard 726-733	Chain	N E	*Dyn	Own	Own 4	MM	Own ½	4.38	Bendix	Own	S 56	Own	Cen	*20x6.00
Packard 740-745	Chain	N E	*Dyn	Own	Own 4	MM	Own ½	4.38	Bendix	Own	S 62	Own	Cen	19x7.00
Peerless St. 8	Link	Aut-L	Aut-L	Rock	War-G 3	Spic	Sal ½	4.7	Bendix	Ross	S 56⅞	Rub B	Alem	29x5.50
Peerless Master 8	Link	Aut-L	*Aut-L	Rock	War-G 4	Spic	Sal ½	4.45	Bendix	Ross	S 60	Rub B	Alem	31x6.00
Peerless Custom 8	Link	Aut-L	*Aut-L	Rock	War-G 4	Spic	Sal ½	4.45	Bendix	Ross	S 60	Rub B	Alem	31x6.50
Pierce-Arrow 132	Chain	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.58	Bendix	Gem	S 60	Faf	Al-Z	19x6.50
Pierce-Arrow 139	Chain	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.42	Bendix	Gem	S 60	Faf	Al-Z	18x7.00
Pierce-Arrow 126	Chain	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.42	Bendix	Gem	S 60	Faf	Al-Z	18x7.00
Pierce-Arrow 125	Chain	Del-R	Del-R	Long	Own 4	Spic	Own ½	4.08	Bendix	Gem	S 60	Faf	Al-Z	18x7.00
Plymouth	Cel	Del-R	*Del-R	Rock	Own 3	Own	Own ½	4.37	H	War	S 53⅝	Tryon	Al-Z	19x4.75
Pontiac	Chain	Del-R	Del-R	Own	Own 3	MM	Own ½	4.42	M	Sag	S 54	Tryon	Al-Z	29x5.00
Reo 15	Link	Del-R	Del-R	Borg	War-G 3	Spic	Sal ½	4.45	H	Ross	S 55	Rub B	Al-Z	18x5.50
Reo 20	Chain	Del-R	Del-R	Russ	Own 3	Detr	Own ½	4.07	H	Ross	S 55	Rub B	Al-Z	18x6.00
Reo 25	Chain	Del-R	Del-R	Long	Own 3	Detr	Own ½	4.42	H	Ross	S 55	Rub B	Al-Z	18x6.50
Ruxton (Fr. Wh. Dr.)	Link	Aut-L	Aut-L	Long	Own 3	Own	Own	4.25	H	Gem	S 55	Own	Alem	31x6.00
Studebaker Six	Whit	Del-R	*Del-R	Long	Own 3	Spic	Own ½	4.73	Bendix	Ross	S 54	Tryon	Alem	19x5.25
Studebaker Dict. 8	Var G	Del-R	Del-R	Long	War-G 3	Spic	Own ½	5.11	Bendix	Ross	S 54	Own	Alem	19x5.50
Studebaker Com. 8	Var G	Del-R	*Del-R	Long	Own 3	Spic	Own ½	4.73	Bendix	Ross	S 56	Faf	Al-Z	19x6.00
Studebaker Pres. 80	Var G	Del-R	Del-R	Long	Own 3	Spic	Own ½	4.31	Bendix	Ross	S 60	Faf	Al-Z	19x6.50
Studebaker Pres. 90	Var-G	Del-R	Del-R	Long	Own 3	Spic	Own ½	4.31	Bendix	Ross	S 60	Faf	Al-Z	19x6.50
Stutz M	Link	Del-R	Del-R	Borg	Detr 4	MM	Tim ½	4.5	H	Gem	S 62¼	Own	Bijur	32x7.00
Viking Eight	Whit	Del-R	Del-R	Borg	Mun 3	MM	Own ¾	4.63	Bendix	Sag	S 58	Tryon	Alem	30x6.00
Windsor 6-69	Chain	Aut-L	*Aut-L	Borg	War-G 3	MM	Col ½	4.9	H	Ross	S 54	O-N	Alem	29x5.25
Windsor 6-72	Link	Del-R	*Del-R	Borg	War-G 3	MM	Col ½	4.9	H	Ross	S 54	O-N	Alem	29x5.50
Windsor 6-77	Link	Del-R	*Del-R	Borg	War-G 4	MM	Col ½	3.9	H	Ross	S 54	O-N	Alem	29x5.50
Windsor 8-85	Link	Del-R	*Del-R	Borg	War-G 3	MM	Col ½	4.63	H	Ross	S 54	Own	Alem	31x6.00
Windsor 8-92	Link	Del-R	*Del-R	Borg	War-G 4	MM	Col ½	3.9	H	Ross	S 54	Own	Alem	31x6.50
Whippet 96 A	Chain	Aut-L	*Aut-L	Borg	Own 3	MM	Own ½	4.55	*Bendix	Own	S 49½	Tryon	Alem	19x4.75
Whippet 98 A	Chain	Aut-L	*Aut-L	Rock	Own 3	MM	Own ½	4.55	*Bendix	Own	S 53	Tryon	Alem	19x5.00
Willys-Six 98 B	Chain	Aut-L	*Aut-L	Borg	Own 3	MM	Own ½	4.09	Bendix	Own	S 49¾	Tryon	Alem	19x5.00
Willys 8-80	Chain	Aut-L	*Aut-L	Borg	Own 3	MM	Own ½	4.4	Bendix	Ross	S 56	Tryon	Alem	19x5.50
Willys-Knight 66 B	Chain	N E	*N E	Rock	Own 3	MM	Own ½	4.6	Bendix	Ross	S 57½	Own	Bijur	19x6.00
Willys-Knt. 87	Chain	Aut-L	*Aut-L	Rock	Own 3	MM	Own ½	4.89	Bendix	Own	S 53	Tryon	Alem	19x5.50

In the Bus Field

Meadville, Pa., July 16.—The Welsh Transportation Company, operating interburban bus lines throughout western Pennsylvania, has plans under way to establish and operate a new bus line between Meadville and Portersville, Pa., a one-way distance of fifty-two miles. It is planned to begin operations early in August. Headquarters of the company are in Butler, Pa.

Newark, N. J., July 16.—Figures compiled by Public Service Coordinated Transport, for the first five months of the year, show that the company, under the Gopsill law, is entitled to deduct from taxes, due to various municipalities, fares for 3,327,316 rides by police and firemen. Until this year, police and firemen were carried free. The Gopsill law authorized traction and bus companies to deduct the loss in revenue from such free rides from taxes paid by the companies.

Nashville, Tenn., July 16.—The opening of the Union Bus Terminals at Commerce Street and 6th Avenue, North, has met with high appreciation from the patrons of the half dozen bus lines that enter. President Quarrels, of the Terminal Company, says the station represents an investment of about $250,000.

Richmond, Va., July 16 (UTPS).—The Richmond Greyhound Lines, Inc., has just put in operation between this city and Washington five new passenger buses. The new buses, the last word in luxury and safety will seat thirty-three passengers. The seats are adjustable. The company's local terminus is located at 412 East Broad St.

WILL DEAL IN TRUCKS

Elizabeth, N. J., July 16.—The Mercer Truck Sales Corporation has filed incorporation papers to conduct a general automobile truck sales business. The concern starts business with an authorized capital stock of 100 shares of no par value. Aaron Kaufman, Dina B. Axelrod and Moses M. Barnett are the incorporators. Temporary quarters are at 80 Broad St.

SPEAKS BEFORE C. OF C.

Portland, Ore., July 16.—Howard (Pat) Patience, manager of the Western Auto Supply Company's Denver district and its general director of public relations, was in Portland recently, where he spoke before the chamber of commerce. His talk was on motoring opportunities in the West.

Plant Extension

Trenton, N. J., July 16.—To fill orders and keep production up to standard in all departments, the New Jersey Seating Company has increased its working hours from forty-four to fifty-five a week. Some weeks ago the company increased the number of its employees to make possible the filling of orders they had on hand, and this number has since been added to. The New Jersey Seating Company has also made recent extensive alterations to its plant. The improvements consisted of the electrification of the plant and the construction of additions to house some of the new electrical equipment.

Charlotte, N. C., July 16.—Plans for the removal to Charlotte of the plant of the Ajax Rubber Company of Racine, Wis., have been announced by Charles R. Collins, an official of the McClaren Rubber Company. Tires of both companies will be manufactured here. Machinery valued at approximately $150,000 has already been moved to Charlotte, Mr. Collins said.

Trenton, N. J., July 16.—During the past few weeks new employees have been added to the force of the Pocono Rubber Cloth Company and that concern is working steadily five and a half days a week. According to officials, each month of this year has marked an important gain over the preceding month, and business for them is now believed to be on the upward trend.

Rochester, N. Y., July 16.—Factory employment in the greater Rochester district during the month of June recorded a gain of 3 per cent. over the previous month, according to the report of the industrial commission of the Chamber of Commerce. The increase is attributed to the fact that men's clothing factories and such concerns as are aligned with the automotive industry added considerably to their payrolls.

Nashville, Tenn., July 16.—The new plant of the Southern Battery Company, 211 Shelby Ave., will open soon with an organization of thirty workers. "Southern" batteries will be the trade name of the product, and when production gets well under way more than 200 will be employed, officials announced.

Newark, N. J., July 16.—The Eck Dynamo & Motor Company plant on the Passaic River, at the foot of Mill Street, Belleville, has been sold to the Viking Tool & Machine Company. The company manufactures special machinery and precision instruments used in numerous industrial establishments. The property comprises a tract of about three acres of ground, carrying with it full riparian rights, at the junction of Second and Passaic Rivers. There are approximately 53,000 square feet of working space in the buildings on the property, the two largest structures presenting 44,000 square feet of space.

Service Notes

Sacramento, July 16 (UTPS).—The George W. Hancock Company has been organized in Sacramento to represent the Lee Tire and Rubber Company for the entire Sacramento Valley, with headquarters at 1621 L St. The firm will be retailer, wholesaler and warehouse depot for Lee Tire products for this territory. Besides George W. Hancock, the head of the company, Tom Enos is service manager and August W. Krueger sales manager.

Ridgway, Pa., July 16.—Arthur Watson has resigned as general manager of the Dunlop Rubber Company's tire and accessory store here, to join the forces of the S. R. Dresser Manufacturing Company, Bradford, Pa.

Sacramento, July 16 (UTPS).—Members of the Sacramento Motor Car Dealers' Association recognize the importance of service problems and policies, as this theme formed the topic of discussion at the association's banquet at the Elks Temple, with Robert Martland of Oakland as the chief speaker. Henry Spring, president of the association, presided.

Longview, Wash., July 16.—The Gilmore Oil Company has announced its intention of erecting a $30,000 storage and distribution plant in Longview. Plans for the depot are now being completed and construction is expected to start this summer. The site that has been purchased consists of 15,000 square feet of ground space. The Gilmore company is the seventh oil company to make Longview its distribution point.

Production--Engineering--Factory

Meet the Chief Engineers

TO acquaint its readers with the important, but unsung, members of the automotive fraternity—the engineers who design and build the nation's cars—Automotive Daily News is publishing a series of brief biographies of the chief engineers of companies producing automobiles, automotive equipment, parts and accessories. These biographies will cover the training and experience of leading engineers and their outstanding contributions to the progress of our industry.

WILLARD L. MORGAN, resident research engineer of the Triplex Safety Glass Company of North America, was born on January 10, 1902, in Wilmington, Del., and was educated in the schools of that city. During the high school years he secured a position in the E. I. du Pont de Nemours Company's main experimental station at Henry Clay, Del. He worked in these laboratories during the summers of 1918, 1919, 1921 and 1922, first simply as a laboratory assistant and the latter two summers as a chemist and finally as a research chemist doing work on the pigment lithopone.

Prior to the work with the du Pont organization, Mr. Morgan had had a private laboratory for at least two years and during a period of seven years had worked in a drug store. In 1922, having already carried out research work, he entered the Massachusetts Institute of Technology and within two years completed the pure chemistry course with an exceptionally high standing. A thesis carried out under Dr. R. M. Gerke was submitted, describing an attempt to prove that water was a catalyst for a very rapid gas reaction. This work was entirely in the field of high vacuum. Mr. Morgan holds the D. S. degree from this institute.

Following this, he accepted a teaching fellowship at the University of California, and for two years taught organic chemistry to sophomore classes in the university, at the same time carrying out research work in the field of colloidal chemistry leading to the B. S. degree in 1926. The thesis work, carried out under Prof. Joe Hildebrand, was a measurement of contact angles of various minerals in the presence of two liquids and the development for this data of a theory of saulsification and ore flotation.

Mr. Morgan next accepted a position with the United States Rubber Company in its general laboratories in New York city. The first problems of research with this company were concerned with the investigation of the formation of jellies in latex, the rubber tree sap. These jellies were applied in the making of raincoats, rug backing, milk bottle tops and various other articles. A further investigation of latex was concerned with the development of a process for the formation of rubber articles, such as gloves, finger cots and bathing hats, directly from latex by a process of filtration. Mr. Morgan also devised a process of printing with rubber and a further development of this process in the production of embossed work and decorative work for bathing specialties. The filtration work involved close cooperation with ceramic concerns.

In the latter part of 1927 he was transferred to Detroit and established a new laboratory for the United States Rubber Company. Here he was in charge of the development of a process for making inner tubes directly from latex. This project was successfully carried through the research and pilot plant stages, reaching upward to a production of 200 tubes a day. During the latter stage of this work, Mr. Morgan traveled considerably, investigating chemical machinery, and drew up plans for factories to manufacture 25,000 tubes per day. The inner tube manufactured by this process had much less rubber than is ordinarily used, yet it had a tensile strength 50 per cent. greater and a tearing strength of over forty times as great as an ordinary tube, being so strong that a person could not tear the tube. Furthermore, in this tube, he succeeded in producing a non-aging rubber. Recognition of this achievement was given in a two-page announcement advertisement by the United States Rubber Company in the Saturday Evening Post. The tube is not only remarkable in properties but could be made at a lower material cost and with apparatus of only a fraction of the investment in ordinary tube manufacture.

Mr. Morgan is a member of the Honorary Scientific Society Sigma YI and of the Honorary Chemical Societies Phi Lambda Upsilon and Chi Pi Sigma, and is also a member of the American Chemical Society, as well as of the rubber division of the same society and of the American Ceramic Society.

In the latter part of 1928 he established a laboratory for the Triplex Safety Glass Company of North America and has since that time been engaged in research in the laminated glass fields. In this connection he has become very familiar with the methods in operation in all the celluloid plants and with the literature concerning celluloid. A great amount of research work on celluloid, its properties and their improvement has been carried out. This knowledge of celluloid is shown by the fact that the Triplex Safety Glass Company of North America is able to turn out a highly satisfactory laminated glass. The manufacture of laminated glass involves the application of heat to celluloid.

Recent additions to personnel and equipment have made the Triplex laboratory over which Mr. Morgan presides a most complete laboratory in every detail.

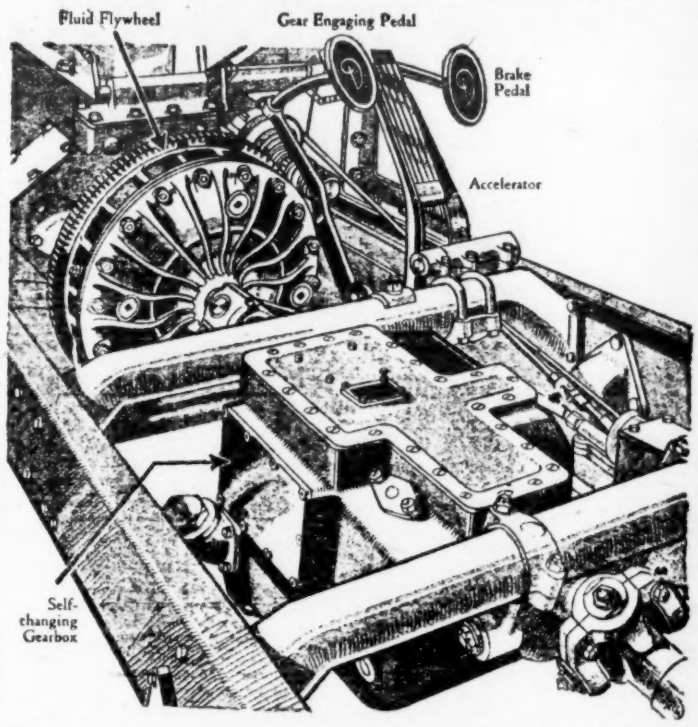
New Device Records Car Movements

Portland, Ore., July 16.—A device known as a "mechanical detective" and designed to record permanently every movement of a motor vehicle has been invented by A. E. Michaelson, 735 East 78th St. N., Portland. The device is intended to assist accident prevention work by providing a written record of the car movements, such as speed, turns, time, acceleration and deceleration.

The device consists of a recording clock, a tape for 2,500 to 5,000 miles of driving and arrangements for recording the car movements on the tape. This will be supplemented by two day and night signals, one at each end of the car. The recording device is a compact unit under the instrument board and could be manufactured, it is believed by Mr. Michaelson, at a cost of about $10 a unit.

The "mechanical detective," as described by the inventor, would provide complete data for use of a court in determining responsibility in case of an accident. This includes every signal (stops, turns) given, application of brakes, duration of stops, whether for one year or one second; lights dim or bright, with time of day or night, to the second; speed recorded in feet per second for every foot or mile covered; license number of car; speed per second for every foot of distance.

New Daimler Transmission

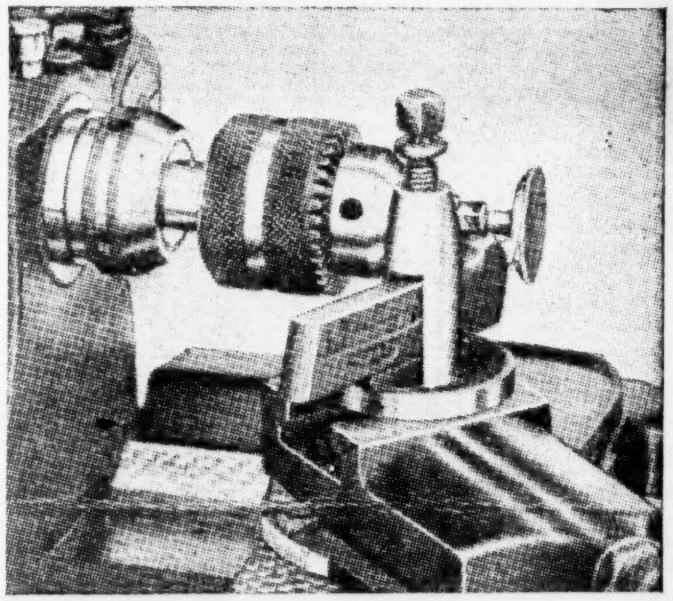


By Courtesy of The Autocar

The Daimler Company, Ltd., Great Britain, is announcing a new model, the 20-30, incorporating an entirely new transmission. This new Daimler transmission system combines the hydro-dynamic shockless transmission device, known as the Daimler fluid flywheel; a pre-selective, self-changing, four-speed gearbox; and a worm-driven rear axle, according to The Autocar.

The Daimler fluid flywheel has been used during the past three years. The self-changing gearbox has been fitted to many hundreds of cars since its introduction in 1928. The Daimler transmission system combines these two devices. With fluid flywheel and self-changing gearbox there is no gear lever or clutch, any gear pre-selected by a small lever below the steering wheel may be instantly, silently and smoothly engaged when required merely by depressing and releasing the left-hand pedal.

Refacing Valves That Have No Center Holes



REFACING motor valves that do not have center holes in the valve head is a problem the service mechanic is frequently called upon to solve. Many mechanics meet this problem by placing the valve in a three-jaw drill chuck mounted in the headstock spindle of the shop lathe. The hollow jaws of the chuck permit the valve stem to be inserted into the chuck allowing only enough room for proper machining of the valve head. With the valve stem running true in the drill chuck, set the compound rest to the correct angle, and the cutting edge of the turning tool at the exact height of the tailstock center point, in order to get the true taper, the turning tool is fed across the face of the valve, using the compound rest screw feed. The cut may be taken both by feeding the cutting tool in or feeding it outward.

The time required to reface a valve in the shop lathe is about two minutes.

REFACING A VALVE WITHOUT CENTERED HEAD

The revolutions per minute of the valve while being refaced depend upon the kind of material the valve is made of. A cast-iron valve will permit a faster cutting speed than a soft-steel valve, and the cutting speed of a tungsten valve should be much slower than that of soft steel.

New Heater Warms Airplane Engine Oil

As an addition to its line of airport accessories, the General Electric Company announces a single-heat portable immersion heater for warming engine oil preparatory to starting.

The new unit is rated 750 watts and operates on 110-volt circuits, either alternating or direct current. Thus it may be used on the local electric lighting circuit in the hangar. It consists of a heating element twisted into the form of helix so that the effective heating length is only about ten inches. This permits its use in oil tanks where larger heaters cannot be inserted.

Motorized Airplane Tender

AFTER several years of experimentation with various kinds of refueling equipment, virtually all air ports and airway companies have turned to the truck-mounted refueling equipment as the most practical way of servicing airplanes. The United States Army Air Corps has adopted a refueler manufactured by the Columbian Steel Tank Company of Kansas City, Mo., and during the last year placed a fleet of these in service at various army flying fields. The Columbian refueler is mounted on a Coleman four-wheel drive truck and has tanks, meter and power pumps for gasoline, oil, water and air. The Skelly Oil Company has the contract for servicing planes for the United States Airways, Inc.

Equipment - - - Development

Use of Metals in Motor Industry Sets New Peak

(Continued from Page 1)

non-ferrous metals in accessories escapes enumeration to a large extent."

The following table, in short tons, gives consumption of the several metals for the last five years:—

	1929	1928	1927	1926	1925
Copper	135,000	125,000	99,000	102,800	106,400
Zinc	40,000	31,500	22,200	21,300	21,200
Tin	19,000	20,000	15,600	16,000	15,000
Lead	18,000	17,000	12,000	16,700	12,800
Aluminum	38,000	34,000	20,600	24,300	31,100
Totals	250,000	227,500	169,400	181,100	186,500

The estimate for copper does not include what goes into the cars in electric generators. Estimate for lead does not include what goes upon them in the form of paint, nor in form of storage batteries.

Quantity of lead in storage batteries used for automobiles is uncertain. Our study indicated that roughly 202,000 tons of lead of a total 210,000 tons used in the manufacture of batteries in 1929 was for automobile storage batteries.

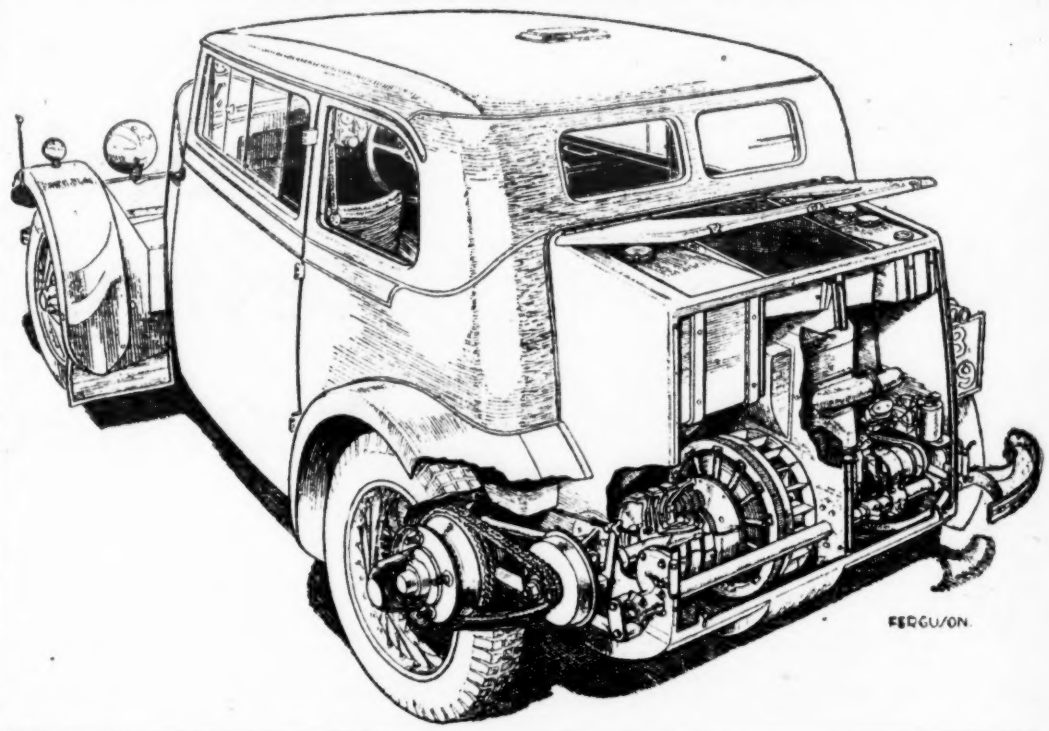
The zinc that goes into automobile manufacture is used principally as constitutent of brass and of zinc-base die castings. Increased use of die castings is reflected in the jumps in the zinc total, beginning with 1927. Tin goes into automobiles as constituent of bronze, of solder and of babbitt. Lead is used mainly in solder and bearing alloys. Aluminum is used as sheet metal and as constituent of alloys.

The following table in short tons is an attempt to classify the use of the non-ferrous metals in the automotive industry according to the principal alloy:

	1929	1928	1927	1926	1925
Copper as such	61,000	54,000	41,000	41,800	40,300
Brass	76,000	74,000	57,900	55,600	57,500
Bronze	22,000	21,500	17,800	24,600	24,400
*Other	91,000	78,000	52,700	59,100	64,300

*Includes babbitt metal, aluminum alloys, solder and all uncombined metals other than copper, but does not include antimony or any metal other than those shown in first table.

New British Trojan Car



Drawing by The Autocar

AN important change in the latest car is the provision of a three-speed gear box, as opposed to the two main speeds and two auxiliary speeds of the earlier machine, a reverse also being incorporated, of course, according to The Autocar.

Improved shapes of the exhaust and inlet passages have resulted in a considerable increase in power output from the engine, though the distinctive feature of the two-stroke engine is that the power curve is practically flat, which accounts for the extraordinary pulling capabilities at low road speed on a gradient, a thing for which the machine has become justly famous. The bore of the engine, by the way, is 63.5 mm., and the stroke is 120.7 mm., giving a capacity of 1,529 c.c., while the annual tax is £10.

In addition, the cylinder jacket water passages have been enlarged, the cooling system itself being more than ordinarily interesting. A supply of water is carried in a tank, seen at the top right-hand corner of the unit in the accompanying illustration, and is in communication with an unusual form of radiator, the system being known as evaporative cooling; it is one used for aircraft work, though not to any extent for cars.

SOUTHERN CROSS USES COTTON 'PROPS'

The three micarta propellers whose whirling blades drew Major Kingsford-Smith and his crew in the giant transatlantic plane, Southern Cross, over the Atlantic Ocean from Ireland to Roosevelt Field, L. I., were manufactured of a material made principally of cotton. These high powered airplane propeller blades are made of ordinary canvas, compressed into a non-corrosive product of metallic strength, which greatly enhances the degree of safety in operation.

The announcement concerning the type of propellers used by Major Kingsford-Smith in his history-making flight was made by officials of the Westinghouse Electric and Manufacturing Company, who developed the micarta propellers, and who has been extremely interested during the past few weeks in this transatlantic hop.

Major Kingsford-Smith in speaking of these propellers said: "I have been using these propellers for eighteen months and they have proven themselves to be ideal for this venture. I have had the edges tipped with metal which has added greatly to their efficiency. I also had this same type of propeller on my hop from California to Australia two years ago."

The process of the manufacture of these propellers is a secret one, but it is commonly known that the basis of it is canvas, layers of which are impregnated with certain chemical components and pressed into a substance of steel-like hardness, and perfect moisture and water proof resistance as a result of the application of the tremendous pressure exerted in the moulding. These propellers when bronze or brass tipped have been found especially adaptable for seaplanes because of their capacity to resist water spray.

This new type of propeller is said to represent the most advanced engineering practice in aviation. Besides having a high efficiency, each blade is a unit which is detachable from the hub. The popularity of the new style replaceable blades, however, is based upon its superior efficiency and physical stability in the air.

Because of their exceptional resistance to moisture of any kind, these propellers prove of especially successful use in India and other tropical countries, as they have proved successful in the Philippines, the Canal Zone and other tropical parts of the United States.

GRAHAM-PAIGE BODY PLANT CLOSED FOR VACATION

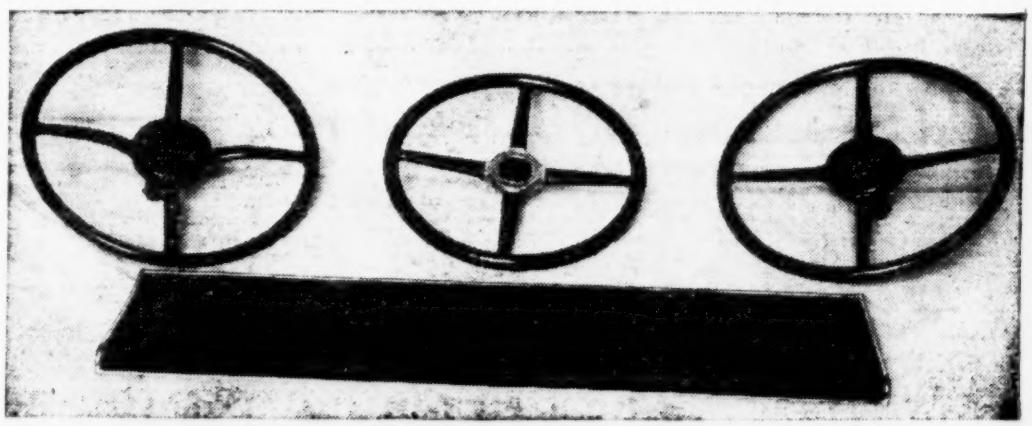
Evansville, Ind., July 16.—Production departments of the Graham-Paige Body Corporation closed this week, and offices will close July 19 for annual vacation period, J. W. Evans, factory manager, announced. The local plant will resume operations August 4.

Inland Manufacturing Only G. M. Unit Making Rubber Parts

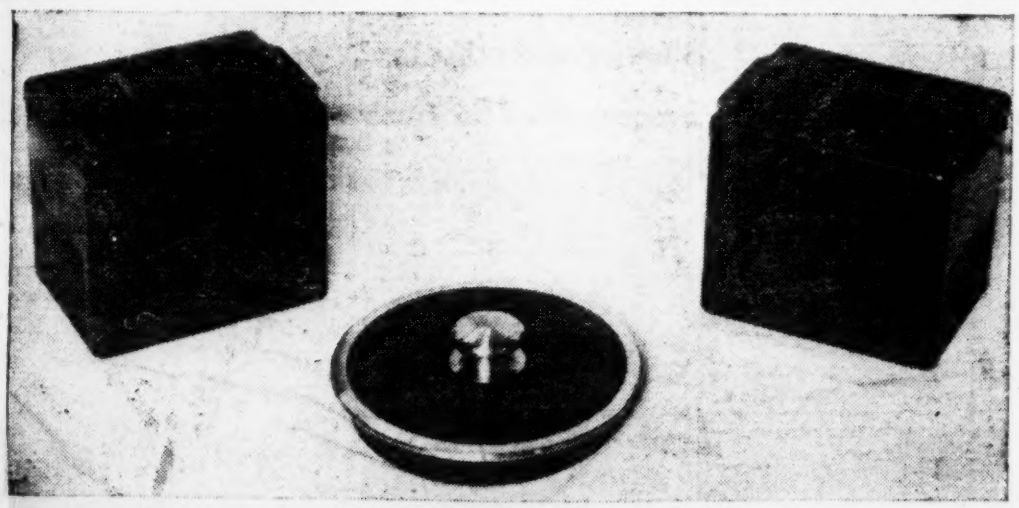
THE Inland Manufacturing Company, Dayton, O., is one of the few General Motors companies not acquired by purchase, but created within the corporation. It is therefore a real General Motors baby. Organized in 1922 to manufacture wood steering wheels only, the company's products have since broadened to include Inland rubber and composition steering wheels, Inlite battery containers, ice cream cabinet lids, Inloid steering wheels and metal-plastic parts in color, Inlox insulating and shock absorbing mounting bolts, mounting brackets, supports, bushings, turntables; Inland running boards, Inlox wheels and molded parts and Inland rubber products of various kinds.

The Inland Manufacturing Company is the only division of General Motors making rubber parts. Its rubber research and development laboratories are elaborately equipped and efficiently manned and its rubber plant capable of both mass and specialty production.

In 1923 100 people were required to produce a capacity of 1,000 Inland steering wheels a day. At the present time the company manufactures over 12,000 wheels a day, employing over 1,000 people. All of the steering wheels used by the various divisions of the General Motors Corporation are made in the Inland plants.



INLAND RUBBER STEERING WHEELS



INLAND RUBBER BATTERY CONTAINERS

Pioneering in the manufacture of steering wheels, the Inland Manufacturing Company developed through its laboratories and engineering facilities not only new and original methods of manufacturing wheels, but new methods of combining rubber with metal and metal with plastics into many articles of broad usefulness.

One of the important developments of the Inland plant is a new and more economical method of manufacturing battery containers from a composition material—Inlite, a durable, inexpensive, bituminous base compound. After several years of research work the Inland laboratories developed this new battery container material and a new process of manufacture, and, in October, 1928, production was started with a few hundred a day. The development of this business has been so rapid that more than ten thousand battery containers are now made daily in mass production machinery designed by Inland engineers. In addition, the Inland plant is producing thousands of hard rubber covers for batteries, as well as hundreds of thousands of rubber parts of various sizes and uses.

Some of the Inland rubber parts are: Horn buttons, axle bumpers, engine supports, distributor covers, pedal pads, door bumpers, floor pads, dolly rollers, etc.

The inlox insulating mounting bolt, in sizes from 3-16 inch to 1 inch, are of unsual and patented construction, combining rubber and metal in such a way as to break all metal contact and provide a cushion of rubber between metal parts. Designed by the Inland engineers for use in mounting motors and engines to eliminate shock, vibration, noise, motor hum, chatter and wear, they also serve as electrical and thermal insulators. This effect is produced by a unit of simple construction, easy to assemble. The cushion of rubber is held under high compression, thus providing rigidity and strength to the mounting. The Inlox bolt is being used at present to mount automobile, airplane and marine engines, washing machines and other household equipment motors and gas engines, bus registers and taxicab meters, automobile bodies, automobile gear-shift levers, phonograph motors, elevators, telephone generators, etc.

At the commencement of its 6th year Automotive Daily News presents its

Annual Review and Reference Number--AUGUST 27TH

WE feel quite confident that the effort we will make to gather data for this important number will result in one of the most valuable issues ever published. With a *distribution* of over *30,000 COPIES,* the size of the issue will be limited, so that we can assure every advertiser that his *copy will not be buried* in a bulky publication.

¶ Among those who will receive this issue are:

Regular subscribers (A. B. C. net paid)	Over	10,000
Truck fleet owners and bus operators	Over	7,000
Wholesalers of accessories, parts, shop equipment	Over	2,000
Retailers of accessories and parts	Over	4,000
Engineers, production men, etc	Over	4,000
Wholesalers and retailers of trucks exclusively	Over	2,000

EDITORIALLY the issue will cover a review of every basic branch of the industry; there will be valuable data for every dealer, jobber, truck fleet owner and factory executive. Reference matter will include the latest registrations of passenger cars and trucks in all states, and complete six months figures.

¶ Opinions of leading engineers, production men, sales managers, manufacturers of all kinds, jobbers, retailers, fleet owners, etc., will make this issue one of the most complete of its kind ever presented to the automotive industry.

¶ News of the day, of course.

Despite the large increase in cost there is *no extra charge* for the added distribution

We request early space reservation, especially from those advertisers who wish to have special spread or full page positions.

Full page $350.
Smaller sizes in direct proportion.
Lower rates on time or space contracts.

Automotive Daily News

H. A. TARANTOUS, Bus. Mgr. GRAYBAR BUILDING, NEW YORK CITY

CHICAGO OFFICE
Willard R. Cotton, Mgr.
333 No. Michigan Ave.
Chicago, Ill.

DETROIT OFFICE
Geo. M. Slocum, Mgr.
Fisher Building
Detroit, Mich.

EASTERN OFFICE
J. Edward Schipper, Mgr.
Graybar Building
New York City

BOSTON OFFICE
Metz B. Hayes, Mgr.
Little Building
Boston, Mass.

PACIFIC COAST
Blanchard, Nichols & Coleman
Am. Nat. Bank Building
San Francisco, Cal.